

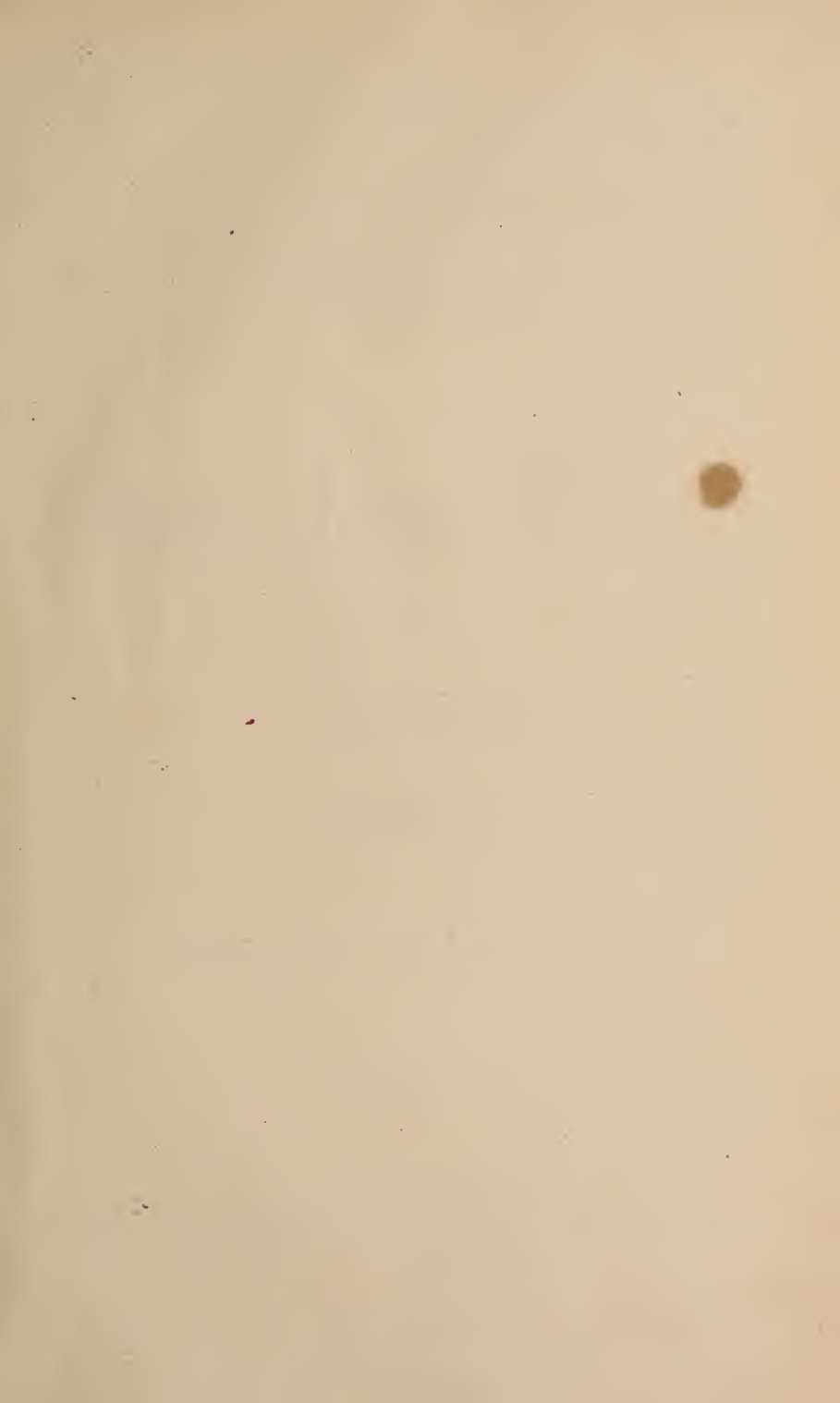


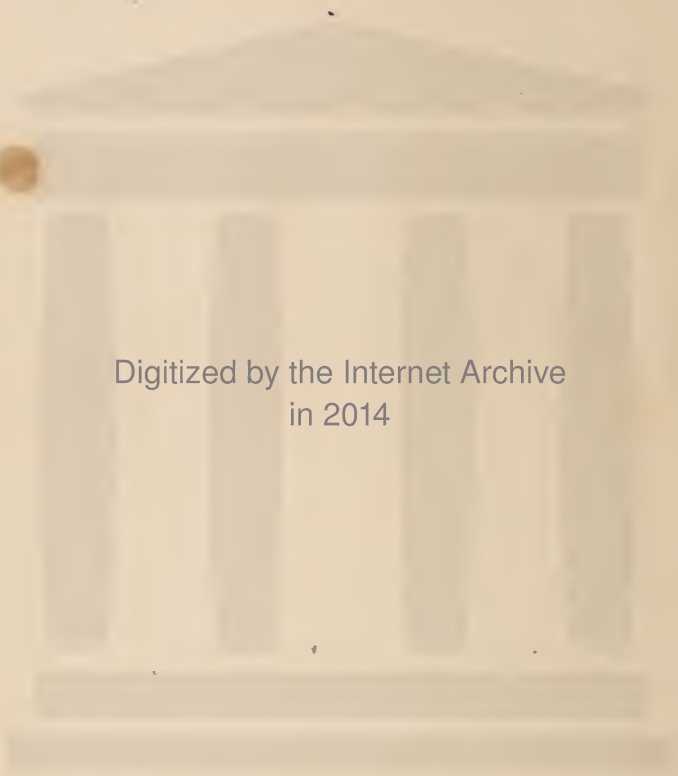
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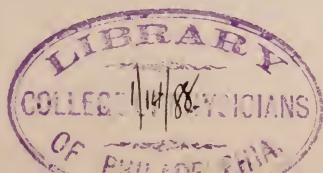
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THE CHICAGO MEDICAL JOURNAL AND EXAMINER

VOL. LIV.

JANUARY, 1887.

NO. I.

ORIGINAL COMMUNICATIONS.

A CASE OF REYNAUD'S DISEASE IN A CHINESE GIRL, TERMINATING FATALLY. *By* T. B. ADAM, M.D.

[Read before the United States Naval Medical Society, Washington, December 2d, 1886.]

The case recorded below interested and puzzled me much while under observation. It was not till opportunity was afforded, during a holiday trip home, of consulting my former teacher, Dr. Finlayson, that I learned the name and real nature of the disease from which my patient suffered.

An interesting account of Reynaud's disease, with illustrative cases, is published by Dr. Southey in the St. Bartholomew's Hospital Reports, vol. xvi, 1880. Drs. Finlayson, Barlow and many others have also reported cases.

My case is a well-marked example of the severest form of the disease. The association of fever, with the periodicity displayed in the attacks of "local asphyxia," and apparent improvement during the administration of quinine, would suggest malarial poison as the possible cause in this particular case, of the "exaggeration of the excito-motor power of the cord in presiding over the vaso-motor centers."

The following notes were taken at the bedside before I had read any account of the disease :

Tieng Tie—a female child, aged eight, residing in the city of Foochow, China—admitted to Foochow Native Hospital in the beginning of March, 1885, suffering from advanced gangrene of both feet. Patient's grandfather states that from birth the child was weakly. Suffered much in early childhood from scabies and boils. Never had small-pox.

When six years old the feet were bound according to Chinese custom. Cried much thereafter; but grandfather denies that any marked deterioration of health resulted.

Present ailment began three months before admission to hospital. While walking out one day the child complained bitterly of much pain in the calf of the left leg. On examination, the skin over calf was found bluish-black in color and cold to the touch. The child was allowed to go about at will, and in four days the discoloration entirely disappeared. A month later the child was vaccinated on the arm. The vesicles ran a normal course, leaving three good scars. One month before admission to the hospital, after partaking of some native wine, according to the grandfather's statement, the child became sick and feverish, and had to lie down in bed. On the following day exquisite pain was complained of in the left foot and lower part of the leg. The child screamed out in agony, and after a short time the left foot was observed to become swollen, black in color, and perfectly cold. During the course of the following day the right foot became similarly affected, the child being again in agony with pain for an hour or two. The circulation in both feet was at once completely and finally arrested, and gangrene was rapidly established. A week later, in the forenoon, the child complained of a tingling in both ears. On examination, the ears were found to be blue

and cold, while on either cheek bluish-black patches were present. After an hour the parts affected resumed their normal appearance. On the forenoon of the following day the ears and cheeks again were similarly affected, the seizure terminating in about an hour. The day after, likewise in the forenoon, the right hand became extremely painful, bluish-black discoloration appeared, and the hand felt quite cold to touch. Normal circulation was restored within an hour. A day or two later the left hand was similarly attacked.

From then till now the child's history has been that, on the forenoon of every day, either ears and cheeks, or one or both hands have been subjected to attacks of temporarily arrested circulation, with imminent gangrene, yielding, however, after an hour or more, and normal circulation being gradually restored. The ears or cheeks were never observed to be affected on the same days as the hands, but alternately.

The right hand has suffered most, having been attacked in all ten times before patient's admission to hospital.

Family history—Patient's father died at the age of twenty-eight. He suffered all his life from poor health, having cough and spit. Was an opium-smoker. The immediate cause of his death was chronic dysentery. Mother is alive, aged thirty. Suffers from chronic dyspepsia. Has no cough. Three children alive; one lost—a four months' miscarriage. Patient is the oldest child. The second, aged five, suffers from cough and attacks of diarrhoea. The youngest, a boy of two, apparently enjoys good health. No admission of syphilis is made of either parent.

Present condition—Patient is a poor, feeble looking child, with sallow complexion. Her breath has a distinctly gangrenous odor. The feet and lower third of both legs are perfectly black and gangrenous. Toes are shriveled up and dry.

An irregular line of demarcation exists about the junction of the middle and lower thirds of both legs, and separation has already considerably advanced. The left leg is more extensively affected than the right.

The child is very nervous and irritable, her face wearing an expression of having suffered much.

March 11th. Since admission the attacks of local congestion have recurred daily. The native assistant in hospital reports that the seizures occur daily with great regularity, between the hours of 11 A.M. and noon. Latterly the hands have been more frequently affected than ears or cheeks. This morning my visit was made a little before 11 A.M. The child was then lying quietly in bed, her hands looking normal. Taking a seat at bedside, after a short time of waiting, I observed both hands becoming congested. The nails first became blue and the fingers cold. Gradually the congestion deepened, fingers were swollen and almost perfectly black. The backs of both hands became bluish-black in color, and for an inch or two up the forearms mottling appeared. The radial pulse was just perceptible. The child screamed loudly with pain, evidently paroxysmal in character, as she would be quiet for a few minutes, answering questions readily, and then suddenly burst forth in shrieks. The right hand was much more deeply affected than the left. The pain seemed to follow upon, not precede, the arrest of the circulation. Both hands became quite cold to the touch, and sensibility was much diminished. Gentle rubbing upward toward trunk was tried to promote venous return, but without result. In about half an hour from the commencement of the seizure, both hands to all appearance seemed in a state of gangrene. I remained over an hour at the bedside, and just before leaving evidence was afforded of the circulation being restored in left hand. Right hand remained in state of

gangrene. The hands were wrapped up in cotton wool. Heart sounds were perfectly normal. The child's restless condition prevented the use of the thermometer, but the skin of body felt normally cool to the touch.

March 14th. Since the 11th inst. the right hand has remained in the condition described in the last note. The fingers are quite black, the middle and little fingers at extremities shrunk in a state of complete dry gangrene. The whole hand is swollen and feels cold. The left hand recovered its circulation perfectly, and though it has been subjected to two fresh attacks since, it looks, at my visit this morning, quite normal. While I was in the ward, 11:30 A.M., the left hand was again attacked. During the seizure the right hand was again involved, the swelling in it becoming greater and pain being present. After cessation of the acute pain the temperature was taken in the mouth; it was 99.4°F. No rigors or sensations of cold have ever been experienced. The child's breath has a very marked gangrenous odor. The finger of the right hand was pricked with a needle. No pain felt; no flow of blood. Blood was easily obtained from the finger of the left hand. Examination under microscope showed no *filariæ sanguinis hominis* present. Child's general condition is fair, but a tendency to diarrhœa occurs, necessitating free administration of bismuth. Yesterday, quinine in one grain doses every three hours was prescribed.

March 15th. Since yesterday's seizure the circulation has not been restored to fingers of left hand, the tips of middle and ring fingers have shrunk. The left hand is swollen and bluish-red in color. Right hand and lower part of forearm still remain much swollen and discolored. The feet, which have been dressed with carbolic oil twice daily, are rapidly undergoing natural amputation. The urine examined this morning is

found to contain albumen. Under microscope pus cells and broken down granular corpuscles are found; also a few granular tube casts; no filariæ.

March 16th. A marked improvement has to be noted to-day. No fresh seizure either in hands or ears has occurred since the 14th inst. To my great surprise, the right hand, which I had deemed hopelessly committed to gangrene, has all but completely recovered, the swelling gone, and normal circulation restored throughout the hand and thumb. The terminal portions of the forefingers are black and shrunken. The left hand also has recovered its circulation save in the extreme tips of the middle and ring fingers, which are black and gangrenous. The child's general condition is improved and she is fairly cheerful. Temperature normal.

March 17th. General state of patient not so good. On visit at noon temperature in mouth was 101°F., pulse 140. No fresh seizures in hands or ears.

March 18th. This morning the left ear was observed slightly congested. Quinine increased to three grains every four hours. The gangrenous odor of breath has all but disappeared.

March 20th. Since last note there has been no fresh seizure. Pain in belly is much complained of and diarrhœa persists. Santonine, three grains given.

March 23rd. No fresh seizures now since the 18th. Pain in belly still complained of and diarrhœa persists. Four or five lumbrici were passed this morning.

March 24th. Both feet dropped off this morning, separation having taken place through the ankle joints. Lower parts of tibiæ and fibulæ protrude through soft tissues of stumps. Child is much exhausted.

March 25th. No improvement in general state. Slight tonsillitis present.

April 2nd. Stumps look fairly well. No fresh seizures to report. General exhaustion is more marked and diarrhœa continues. Two drachms of port wine given every two hours.

April 6th. Patient has gradually become weaker. Pains in belly of an intermittent character have been persistently complained of.

April 7th. Patient died last night, apparently from pure exhaustion. No post mortem examination permitted.

NOTES ON REYNAUD'S DISEASE.

Allied to the every day complaint of numb or dead fingers. A distinction made between the milder form of "local syncope" and the more serious form of "local asphyxia."

Local asphyxia—circulation comes to a stop with blood retained within the capillaries; blood does not pass, but veins remain full and part assumes a black appearance.

Probably no oxidation takes place, or only very imperfect nutritional chemical interchange, and therefore the blood will not pass through the capillaries. Part affected is numb, cold and has lost tactile sense and local sensibility—does not bleed when pricked. A sharp, burning pain is complained of. Degree of pain suffered bears relation to depth of color of affected skin area, being most severe when fullest of black blood.

No general symptoms of importance beyond the local pains.

Tendency of local asphyxia and local gangrene to be symmetrical on the two sides of the body.

Reynaud's definition of the disease: "A neurosis characterized by an exaggeration of the excito-motor power of the cord in presiding over the vaso-motor centers."

Of complaints resembling Reynaud's disease (but still

very distinct) Englisch enumerates ergotism, frost-bite, diabetic gangrene, nephritis interstitialis, the cyanosis of heart disease, syphilis and lepra.

As hereditary causes may be placed all such as disturb the vaso-motor system, brain injuries, mental shocks, frights, concussions, etc.

Reynaud attributes the local mischief to cramp-like contractions of the arterio-capillaries. He thought quinine, strychnine and electricity appropriate remedies.

He regards the disease as an illustration of spinal vaso-motor reflex, of which he perceives three grades or degrees:

I.—Slight reflex spasm of arterioles—local syncope.

II.—Profound arrest of circulation by reflex spasm—local asphyxia.

III.—Mortification by prolonged arrest of circulation; by spinal excito-motor spasm.

The symmetrical nature of the lesion is due to the common central spinal vaso-motor regulator center.

Further, clinically we perceive three stages of symmetrical gangrene:

I.—Of invasion—local asphyxia with imminent gangrene (lasting about a month).

II.—Of gangrene—access and duration: whole mortification limited and complete within ten days, usually.

III.—Of healing by suppuration and granulation, in a period varying from twenty days to ten months.

ADDENDUM.

Extract from a letter received from Surgeon G. W. Woods, U.S.N., transmitting the report of Dr. T. B. Adam:

“I herewith inclose a singularly interesting report by

Dr. T. B. Adam of a case of Reynaud's disease, in which I was much interested while at Foochow, China, in the winter and spring of 1885. I send it to you for the purpose of presentation to the Naval Medical Society when a favorable opportunity offers. You will find an exhaustive account of this disease in the fifth volume of the 'System of Practical Medicine,' published by Lea Brothers & Co., and edited by Wm. Pepper, M.D., LL.D.; the concluding volume just out. It is treated under the head of 'Symmetrical Gangrene,' or 'Local Asphyxia,' and Reynaud is given credit of first studying it in 1862, when he reported twenty-eight cases; and Billroth, Weir Mitchell, Mills, A. McLane Hamilton and J. C. Warren, as well as others, have since reported cases and discussed the subject.

"The pathology of the disease seems to indicate its origin to be at times centric, at others reflex, affecting the vasomotor centers and producing symmetrical spasms of the arterial and venous systems at their terminal distribution, and, when reflex, may be caused by irritative conditions of the skin, brain, and viscera, especially the female genitals. It is most commonly a disease of adult life, more common in the male than female, and may be caused by cold, the various forms of exhaustion, anæmia, mal-nutrition, mental agitation and uterine disorders, though in some cases no cause has been determined.

"The most satisfactory treatment has been tonics, massage, elevation of the limbs, and wrapping them in cotton batting, with the application of antiseptic lotions, if necessary. Reynaud used a galvanic current, descending through spinal cord, with asserted success. Others have failed to notice any benefit from galvanism."

CONSIDERATION OF ANTIPYRINE AND THALLIN AS ANTIPYRETICS.

By JOHN A. ROBISON, A.M., M.D., *Professor of Materia Medica and Therapeutics, Woman's Medical College; Lecturer on Materia Medica, Rush Medical College:*

[Read before the Chicago Medical Society on December 6th, 1886.]

The therapeutical actions of antipyrine and thallin, as detailed in the briefest possible manner in this paper, have been selected from the observations of a large number of clinicians. The entire literature on the subject has been carefully examined and the true therapeutical actions of these drugs epitomized.

Antipyrine is an artificial alkaloid discovered by Ludwig Knorr, of Erlangen, and obtained by the reaction of acetic ether on aniline, or by oxidation of chinoline. Antipyrine is in the form of a white crystalline powder, of a faint aromatic odor and insignificant bitterness of taste, and is freely soluble in water and alcohol. The solutions are neutral, in reaction, and can be used hypodermically. The dose of the drug is, by the mouth, fifteen to thirty grains, hypodermically, half these quantities. From sixty to ninety grains must be given to procure the therapeutical effects, and it is better to give the drug at intervals of an hour until the desired effects are produced. As far as possible, we will review the actions of this drug on the various systems of the body, in regular order.

Digestive System.—Its taste is slightly bitter and can easily be disguised, therefore it seldom produces nausea or vomiting on first administration. Large doses have sometimes an astringent effect on the intestinal tract, producing constipation, and checking diarrhœa and intestinal hemorrhage. It is readily absorbed, and is freely eliminated by the skin, kidneys and bowels. During the process of elimination by the skin it produces profuse perspiration, and in some patients a

peculiar eruption. About ten per centum of patients experience this eruption.

Circulatory System.—Antipyrine in large doses dilates the veins and capillaries, thus increasing heat radiation. It has, contrary to general belief, a *tonic action* upon the heart, and not only strengthens the auricles but increases slightly the blood-pressure. In no respect does antipyrine injuriously effect the blood or muscular tissues. The frequency of the pulse generally varies with the changes of temperature, *i. e.*, falls when the temperature descends, and rises with the ascent of the latter.

Respiratory System.—Nil.

Cerebral and Nervous System.—A full dose of antipyrine induces a sense of drowsiness and exhilaration. Fatigue is displaced by a feeling of well-being. Dr. J. B. White, of New York, says in the *Medical Record*, September 11th, that "the drug when given in masterful doses will relieve headache whenever present, whether resulting from disordered digestion, disturbance of the menstrual functions, loss of sleep, undue mental effort, or even uræmia; and also it possesses reliable prophylactic virtues against attacks of cranial neuralgia." In the delirium of pneumonia and fevers, the administration of antipyrine is often followed by periods of lucidity.

Action on Tissues.—The action of antipyrine in reducing temperature is perhaps the one most interesting to us. We have already mentioned the fact that it increases the circulation of the blood through the veins and capillaries and promotes perspiration, and thus probably reduces the temperature by increased radiation of heat; and yet this will not account for the marked reduction of temperature which follows the administration of large doses of the drug at fre-

quent intervals. Umbach's experimental studies in Nencke's laboratory at Berne demonstrated that antipyrine lessened the amount of elimination of nitrogenous waste both by the general and respiratory systems. Hence he concluded that this drug, like quinine, produces apyrexia chiefly by limiting the oxidation of tissues. Therefore it is indicated when rapid oxidation of the tissues gives rise to an excessively high temperature. In such cases the nutritive processes are arrested until the excessive waste of tissue is controlled. In these cases apyrexia should be induced as soon as possible. The apyrexia produced by antipyrine varies in its rapidity and intensity according to the age, sex and constitution of the patient, the time and mode of administration, and the nature and stage of the disease. The younger the patient and the more debilitated, the more promptly will the antipyretic effect be obtained. If the action of the drug is obtained during a spontaneous fall of the temperature, a condition resembling collapse may be produced, with the temperature below normal. The effect is heightened by the use of cold baths and the administration of other antipyretics. Fifteen grains given at intervals of one hour will generally cause a fall of temperature from one to two degrees. In typhoid fever, during the first stages of the disease, it frequently requires the administration of seventy-five grains to produce an apyrexia lasting only three or four hours, while in the later stages of the disease forty-five to sixty grains will cause the temperature to fall to 99° or 100° F. for a period of ten to twelve hours. Much larger doses of the drug produce no more profound effects.

The question arises, does antipyrine cut short the duration of any of the febrile diseases in which it is given?

In 130 cases of typhoid fever in which I have exhibited the drug, the average length of time of treatment was twenty-one and one-half days. The least number of days of treatment was five; the largest, fifty. Of course these figures do not represent the number of days the patients were sick. My opinion is that the drug neither lengthens nor lessens the duration of the diseases in which it is given. But in cases of excessively high temperature, where it is *per se* a danger, I believe antipyrine conserves the vital forces and gives a better chance for recovery, although the drug may not hasten coalescence. In these cases I believe it to be the most reliable, safest, and the least objectionable of any antipyretic at our command. In the case of C. H., whose fever-chart is here presented, during the twenty days antipyrine was given there were 226 hours in which the temperature was on the down grade. Nearly half the time there was lessened tissue-waste, as evidenced by the lowering of the temperature. The average duration of the apyrexia was four hours and six minutes. There were no chills or other disturbances.

Pneumonia and other febrile diseases.—In pneumonia, acute articular rheumatism, malarial fever and phthisis this drug controls the temperature without producing the dangerous symptoms that often follow the administration of large doses of quinine, kairin, salicylic acid, or thallin. In the acute articular rheumatism of children, with endocarditis, I have had good results by administering it in combination with alkaline treatment. The only report of a case of failure to produce apyrexia I have noticed, is a case of sun-stroke reported in the *Medical Record*, September 25, 1886.

THALLIN.

Thallin is another artificial alkaloid, of a fawn color, bitter taste, and sticky, disagreeable odor. It may be given in doses of one-half to three grains, at intervals of one or two hours until apyrexia is produced.

Apyrexia.—It lowers the temperature even more readily than antipyrine, and often succeeds when antipyrine fails.

Circulatory System.—In small doses thallin increases the rate of the heart's action, but in larger doses decreases it, enfeebles the circulation, and, if the dose be lethal, the heart's action is arrested in diastole. Under thallin, venous blood and the walls of the veins become darker in hue than normal. Therefore, this drug should not be used in infectious diseases on account of thallinization of the blood.

Chills.—The apyrexia produced by thallin is almost always accompanied by severe chills. In the case of J. J., whose temperature chart is also presented, in which thallin was used in one to three grain doses for six days, six chills occurred, although antipyrine was used 40 days without a chill occurring. The chill was always accompanied by a sudden rise in temperature; it once rose as high as 106.2° F.

Pulse, Respiration.—The pulse becomes feeble, irregular and quick, and the respirations shallow in a number of instances when thallin is given in therapeutic doses.

In comparing the antipyretic actions of these new fever-reducing drugs, I think all observers agree that antipyrine is efficient and safe, whereas thallin must be used with a great deal of discrimination.

428 Washington Boulevard.

REPORT OF A CASE OF CHRONIC DIFFUSE NEPHRITIS, AND
THE EFFICACY OF BASHAM'S MIXTURE.

By A. L. GIHON, M.D., *Medical-Director, United States Navy.*

[Read before the Naval Medical Society, Washington, D. C., December 2nd, 1886.]

The efficacy of the *Mistura ferri et ammonii acetatis*, (U. S. P.) in the treatment of a case of albuminuria incident to chronic Bright's disease, recently under my care, was so pronounced that I feel that it ought to be brought to the notice of the members of the Society.

The patient, an officer, was admitted into the United States Naval Hospital at Washington, D. C., 28th of March, 1886, having been invalided from the U. S. S. *Nipsic* at Montevideo, February 16th, as with "Febris remittens." He had been transferred from the U. S. S. *Enterprise* on the 9th of January, his disease being stated to be the result of exposure to malarial influences during a former long cruise on the China Station. During his stay at Montevideo, he was found to have albuminous urine, œdema of the lower extremities and dyspnoea.

At the Naval Hospital, New York, where he was first received on reaching the United States, his urine was noted as "smoky, variable in quantity, containing from one-sixth to one-twelfth of its volume of albumen, with granular and hyaline casts. There was general œdema with consequent dyspnoea; spasmodic breathing, interference with heart's action and pains in the extremities." He improved sufficiently to permit his transfer to Washington, at his own request, that he might be with his family, but the fatigue of travel proved more than he was able to undergo, and he arrived in a state of extreme prostration, his heart acting feebly and tumultuously, beating one hundred and forty to one hundred and sixty per

minute—pulse scarcely discoverable at the wrist—temperature ninety-nine, features pinched, eyes pearly, skin dull yellow, surface cold, clammy sweat, tongue broad, moist, pale and cold to the touch, great præcordial distress, dyspnœa, excessive restlessness, moaning, hiccough, distention over lower pleuræ, tumid abdomen, almost complete suppression of urine, and incessant violent retching and vomiting.

He was put into a hot bath, dry cups applied over the loins, and the abdomen enveloped in hot turpentine stupes. Later the *Mistura ferri et ammonii acetatis*, the use of which had been commenced at the Naval Hospital at New York was administered in small doses alternately with boiled milk and lime water and repeated as often as it was vomited. This treatment, catharsis being at the same time established, was persisted in with such modifications as circumstances required. The irritability of the stomach gradually abated on the restoration of the secretion of urine, which on the 26th had increased in quantity to 300 c. c. during twenty-four hours, having specific gravity 1018 and containing ten per centum of albumen and on the 27th, to 500 c. c. specific gravity 1005, albumen six per centum; granular casts and fatty matter were abundant.

As the stomach and kidneys recovered their functions, the Basham's mixture was continued in larger doses at longer intervals, and on the 22d of May the patient was able to accompany his mother and sister to Missouri, arriving at their home on the 24th, after a rest at St. Louis. On the 25th he went under the professional care of Dr. Edward N. Small, of Sedalia, who wrote that he had accomplished the trip without much fatigue, complaining principally of dyspnœa. His urine amounted to about 800 c. c. in twenty-four hours, of specific gravity, 1018, containing "a considerable quantity of albumen

and fatty casts." On July 24th Dr. Small writes: "His urine has specific gravity 1022, slightly acid, average quantity daily thirty-four ounces (nearly 1,100 c. c.), no casts and careful examination failed to detect the slightest trace of albumen. Improvement has been rapid during the last few weeks, his flesh has become firmer and of rosier color, all puffiness has disappeared from the face and swelling from the lower extremities. Some abdominal distention remains, but is much less than a week ago. The treatment by turpentine stupes, milk diet, with an occasional hydragogue cathartic and Basham's mixture has been adhered to. I am exceedingly glad to report so favorably."

This case, as also one other under my observation in a patient, whose antecedent history had a record, as this one, of alcoholic indulgence, demonstrates the usefulness of this very elegant combination of iron and ammonium acetate, the use of which, begun under unpromising conditions, was fortunately persevered in by the successive medical attendants with such satisfactory results.

ON CERTAIN DISEASES OF THE VAULT OF THE PHARYNX.

By H. GRADLE, M.D.

[Read before the Chicago Medical Society, December 6th, 1886.]

METHODS OF EXAMINATION. HYPERTROPHY OF THE PHARYNGEAL TONSIL. IRRITATING PLUGS IN THE CRYPTS OF THE TONSIL. HYPERTROPHIC AND SIMPLE CATARRH. THE BURSA PHARYNGEA.

There exist various diseases of the naso-pharyngeal space, which are but too often overlooked by the general practitioner, or, being simply termed catarrh, are treated in a routine and inefficient manner. The frequency of these complaints is shown by the large number of persons in this climate, whose snuffling and hawking and clearing the throat indicates the annoyance they feel in the pharynx. While these affections are indeed not a serious matter ordinarily, the frequency with which ear disease involves both ears at the same time is the best proof of the importance of the space where the two Eustachian tubes meet. Far the most important aspect of pharyngeal anomalies is their liability to lead to catarrhal or suppurative inflammation of the ears, and from this point of view I have mostly seen my patients.

The difficulty of examining the upper part of the pharynx—often overestimated—is reduced by the use of cocaine in persons with sensitive throats and those having imperfect control over their palatal and pharyngeal muscles. The rhinoscopic view is much more comprehensive and not more difficult to obtain, if we employ a large mirror up to one inch in diameter. Where a small mirror can be used a larger one is generally tolerated as well. Where the space between the soft palate and the rear pharyngeal wall is limited, the examination is scarcely satisfactory without a palate look. I prefer one made

of wire in the form of a loop, curved on the flat, and find this of but very little inconvenience to the patient. But like all other modes of medical examination, posterior rhinoscopy requires some practice before success can be attained. On an average I have succeeded in gaining a fair view in three patients out of four at the first trial and of the remainder one-half can train themselves until they become tolerant. A small number of people never learn to submit. Children old enough not to be frightened are no more difficult to examine than adults.

The morbid condition which I shall principally deal with in this paper, viz., enlargement of the pharyngeal tonsil, can be recognized without the mirror, by introducing the finger through the mouth behind the soft palate and feeling whether the space is limited by a smooth roof or whether it is filled with soft yielding growths. The rear end of the inferior turbinated bones must not be mistaken for growths. This examination is quite disagreeable to the patient.

The pharyngeal tonsil is a structure insufficiently described or even ignored in many text-books. It forms a mass of lymphoid glandular tissue lodged at the roof of the pharynx, with very delicate flat extension down the sides of the pharynx up to and partly into the Eustachian orifices. Like the oral tonsils, this gland is frequently subject to hypertrophy, and for reasons equally unknown. The trouble occurs perhaps more often in scrofulous children than in others. This hypertrophy impedes the passage of air through the nose, especially when a temporary congestion is superadded by reason of a fresh attack of catarrh or simply from the low position of the head during sleep, for the tonsils contain enough vascular tissue to be capable of variations in size and may be some-

times seen to shrink very considerably from the application of cocaine, though only for the time. The filling up of the post-nasal space forces the patients, usually children, to sleep with their mouths open and accordingly they snore, sometimes to an annoying extent. The voice has a "dead" sound, the nasal consonants *n*, *m* and *ng* being indistinct and resembling *d*. The voice is oftentimes sufficiently characteristic to reveal the disease to an expert. Besides impeded nasal respiration a venous congestion is the inevitable result of enlargement of the pharyngeal tonsil from pressure upon the lateral walls of the pharynx beneath which the return veins pass along. This venous congestion is manifested by the dark rings around the eyes, and dilated veins sometimes seen on the conjunctiva, and the thickened lips often found in scrofulous children, all of which recede after extirpation of the gland. Besides, the enlarged tonsil may give rise to reflex disturbances, frequent headaches of the occipital type and sometimes persistent cough, accompanied or not by bronchitis. A striking case was that of a ten months' babe under my charge for ear disease which had suffered for many weeks from a chronic bronchitis, according to the diagnosis of a competent physician. On finding the suppuration of the ear unusually tedious I explored the pharynx, detected the enlargement of the tonsil and immediately removed that gland with the curette. Within one day all signs of bronchitis ceased. Several of the children that I have seen with this trouble were subject to night-mare and sometimes night-terror. In one case this amounted to transient delirium during several weeks. The boy, at the time twelve years old, awoke almost every night frightened and unable to comprehend the situation. The

cause, as the mother could judge from his actions, seemed to be a want of breath. All of these reflex symptoms as well as the impediment to nasal respiration are permanently removed by extirpation of the gland.

The most serious aspect of hypertrophy of the pharyngeal tonsil is the liability to ear disease. This may be catarrhal or suppurative and is always persistent and apt to relapse, if temporarily cured, as long as the hypertrophy remains. But after removal of the tonsil the inflammation of the ear can be easily managed.

The enlargement of the pharyngeal tonsil is commonly referred to in the literature under the name of adenoid vegetations. This name is justified, whenever coxcomb-shaped projections hang down, giving the mass somewhat the appearance of an inverted head of cauliflower. These separate prominences on the surface of the tonsil result from the natural divisions of the normal structure into ridges. The most common form in which I have seen hypertrophy of the pharyngeal tonsil in this country is, however, not that of separate vegetations, but the entire gland appears uniformly enlarged into a more or less hemispherical body with smooth surface, filling out the naso-pharyngeal space. It has seemed to me as if this more diffused form of hypertrophy were more common in older than in younger children. The enlargement may be of a soft or of a firm texture, the former predisposing to frequent hemorrhages from the nose and pharynx. It seems that this enlargement recedes to a certain degree, if not completely, as the period of growth is passed, for in adults the pharyngeal tonsil is rarely found enlarged to any extent.

Hypertrophy of the pharyngeal tonsil cannot be treated successfully to-day except by surgical means. The galvano-cautery may be used, passing a suitably curved electrode

with flat platinum tip up behind the soft palate and thrusting it into the enlarged gland. This must be repeated quite often, unless we make each sitting more thorough by gouging as much as possible with the platinum blade, while it is in the midst of the tissue. After the thorough application of a spray of 4 per centum solution of cocaine the pain is not very great, especially if we wait about fifteen minutes before burning. More satisfactory than the galvano-cautery is the use of a sharp curette, especially in the form recommended by Trautmann (*Anat. Path. & Klin. Studien ueber Hyperplasie d. Rachentonsille*, Berlin, 1886). This consists of a stout sharp spoon from 11 to 15 millimetres in diameter and not perforated. About 25 millimetres from the end the shank is bent to an angle of 150° . The patient being securely seated, the curette is passed through the mouth up behind the soft palate, pulled forward so as to glide up between the edge of the vomer and the pendent glandular mass, whereupon it is pushed backward and downward. Subsequently the cutting is completed with the sharp lateral part of the edge and, if possible, the removed mass is brought out in the concavity of the scoop. The hemorrhage is sometimes copious at the first moment, but I have never seen it alarming. It can always be controlled by gargling with ice water. As soon as the flow of blood is stanchd the curette is again introduced until the entire mass is removed or the patient refuses to submit any longer for the time being. Since the gland glides away from the edge of the curette it always requires three or four attempts before the extirpation is complete and in sensitive patients often four or five sittings may be necessary. I have found it of advantage to use, besides the Trautmann sharp spoon, several other forms

of scoops. These are not a mere sharp spoon, but a hollow scoop and bent so that they can be introduced along the sides of the pharynx and gouge their way through the tonsil from either the right or the left side. After the sitting is over we can decide how complete the result has been only by means of the finger, for as a rule the oozing of blood prevents the use of the mirror. Although this operation is by no means neat, and often appears bungling, it is really not very painful and I have never been forced to postpone a second operative attempt upon a child. Moreover, the result is in all cases exceedingly gratifying, be it done in the interest of the ears or simply for the removal of the impediment to respiration. My experience amounts to nearly thirty cases upon which I have operated, while about half of that number have declined or postponed operative interference. No after treatment is necessary.

The ring-shaped knife which Meyer, who first described adenoid vegetation, passes through the nose is, according to my experience, more unpleasant to the patient than the scoop introduced from the mouth. The galvano-caustic loop is very difficult to apply, and impracticable where there are no separate vegetations.

The pharyngeal tonsil may be a source of irritation, even when not enlarged to any extent. Like the oral tonsils it contains crypts which are sometimes filled with white plugs consisting of masses of bacteria. I have seen at least six or eight patients in whom pharyngeal annoyance and ear disease could be traced to this condition as the starting point. In these cases destruction of these crypts with the galvano-cautery proved a sufficient treatment. The diagnosis, of course, could be made only with a rhinoscopic mirror.

The adenoid tissue continuous with the pharyngeal tonsil forms in some persons thickened red spots at the upper part or the lateral walls of the pharynx above and behind the Eustachian orifices. These irritated follicles have seemed to me to exert an unfavorable influence upon the ears in several instances, for after their galvano-caustic destruction the catarrh of the middle ears proved more manageable than it had been prior to this operation.

Without wishing to discuss at any length naso-pharyngeal catarrh, I think it worth while to call your attention to the difference between the hypertrophic form of this disease and the simple catarrh not accompanied by any visible lesions. The form in which the pharynx appears uniformly red and thickened yields quite readily to treatment. According to my experience nitrate of silver has given better results than any other remedy. I have made use of it either as a four per centum wash applied with a brush, or preferably in the form of a dry powder mixed with six times its weight of talc and blown in with an insufflator. I find, however, the most agreeable mode to the patient is the use of the four per centum spray, but this is awkward to the physician on account of the liability to stain the clothes.

Of all pharyngeal diseases I know of none more rebellious to treatment than the simple catarrh without visible lesions. The presence of follicles on the posterior wall of the pharynx does not give a better prognosis, for I have found treatment applied to scattered follicles in the form of astringents, or the galvano-cautery, almost inert. Where nothing can be seen on inspection, but the patient complains of discomfort and the presence of mucus and suffers besides from catarrhal disease of the ears, almost every mode of treatment has been unsatis-

factory in my hands as far as the pharynx is concerned, although the aural symptoms may be modified or removed.

Tornwaldt (*Ueber die Bedeutung d. Bursa Pharyngea*, etc., 1885) has attributed this form of naso-pharyngeal catarrh without visible lesions to disease of what he calls the *bursa pharyngea*, a pit or recess of the mucous membrane at the roof of the pharynx in the rear part of the center of the pharyngeal tonsil. The pit which he describes as the entrance to this bursa I have seen with a large rhinoscopic mirror many times, but by no means in all persons. He claims to demonstrate the existence of catarrh in this recess by the formation of crusts around the opening, or the oozing of pus or mucus from it while under examination. This condition I have never been able to find. I am therefore skeptical as to the existence of the normal bursa pharyngea and entirely distrustful as to catarrh limited to this recess. I have, however, followed Tornwaldt's suggestion and cauterized this region with the galvano-cautery, even though no local appearance pointed to it as the source of the pharyngeal discomfort and disease. The results have not been uniform; in some cases they have been entirely negative, while in about one-half of the dozen patients on whom I have tried this method some amelioration was obtained. Tornwaldt also describes cysts as the result of closure of this bursa. These cysts at the roof of the pharynx seem to be rare in this country; I have only seen them twice and I am more inclined to consider them originating in the tissue of the pharyngeal tonsil than from closure of the alleged bursa. The plain indication is to open these cysts and to destroy their cavity with the galvano-cautery. The results of this treatment were satisfactory to the patients.

Central Music Hall.

PNEUMATIC DIFFERENTIATION AND MEDICATION. *By* H. A. JOHNSON, M.D., LL.D., *Emeritus Professor of Principles and Practice of Medicine in Chicago Medical College.*

[Read before the Chicago Medical Society, December 20th, 1886.]

The question of pneumatic differentiation has been quite largely discussed by members of the medical profession during the last two or three years, but there seems still to be a good deal of mystification on the subject. I was unable to be present when the matter was brought before this society. I therefore beg permission to say a few words which I had intended to say at that time and also to exhibit a contrivance for medication by spray or vapor in condensed air. It is not my purpose to discuss the merits of pneumatic differentiation. The subject, if not the term, has been before the profession for many years, and various devices have been employed for its accomplishment. The manufacturers of pneumatic cabinets insist that the desired results can be realized only by placing a patient in a box with a tube by means of which he breathes, the air of the room, while the pressure on the surface of the body is either diminished or increased by pumping air out of the box or into it. It is claimed that the result upon the body must be quite different from that reached by the use of the Waldenburg apparatus or other similar devices, for the reason that in some way the movement of a body under the pressure of a force, we will say, of fourteen pounds against a resistance of thirteen pounds, in which the available moving force is one pound, must be quite a different process from that which is reached when the moving force is fifteen pounds and the resisting force fourteen pounds. They do not, it is true, state it in this form, but they do assert that, in case we will say of the patient breathing through a tube the external air while the air in the

chamber has been partly exhausted, so that its pressure is one pound per square inch less than the outside air, a *vis a fronte* is developed, by which the fluids and gases of the body are moved in a manner quite different from that which takes place when the patient sitting in the room breathes from a tank air compressed so that the pressure of the air breathed is one pound per square inch greater than that of the air in contact with the surface of the body. It must be evident that there is a fallacy in this claim.

We no longer use the phrase, *vis a fronte*, in the sense of an active force when we apply it to such phenomena as those which occur in the case of a vacuum filled by in-rushing matter. It is well-known now that there is an active force from behind, a *vis a tergo*, which pushes into a partial vacuum sufficient matter to equalize the force, whatever it be, on the other side, or to produce an equilibrium of force. In the pneumatic cabinets there is therefore only another mechanical device for affecting the differentiation produced by the Waldenburg apparatus, and which has repeatedly been produced by breathing air from a tank into which it has been condensed by some means, such as air pumps, water pressure, etc. I am not alone in holding this opinion.

Dr. Isaac Hull Platt in a paper read before the American Climatological Association at its third annual meeting, is led to conclude that the effects of breathing condensed air from the cabinet, the patient sitting in the room, are the same as those produced when the patient, placed in the cabinet and the air pressure reduced about the body, is allowed to breathe the air from the room. He says:

"To put the matter beyond a doubt," that is the claim of a special value in the inclosure of the patient in the cabinet, "I have reversed the breathing tube of the cabinet, placing

the patient on the outside and compressed the air within the cabinet. The effects produced upon the residual air and upon the pulse, as well as the subjective experience of the person operated upon, were found to be identical with those obtained when he was within the cabinet and the pressure reduced to the same degree."

I have made quite a number of experiments bearing upon the same question with results in no sense differing from those reached by Dr. Platt. The proposition to conduct medicated sprays into the alveoli of the lungs by the differentiation of air pressure has been also ably treated by Dr. Platt, but I do not desire to consider it in this connection. I presume all admit that to the upper air passages sprays may be applied with, in many cases, benefit. The use of sprays or vapors with condensed air is conveniently accomplished by the use of the cabinet, but this result can be and has been repeatedly reached, and just as easily, by other devices. I have within the last twenty years resorted to several different contrivances for that purpose; an ordinary atomizing tube may be inserted through an opening in the tube from the tank of compressed air, so that medicinal substances are thrown in the form of spray into the stream of condensed air inhaled. There are quite a number of ways of accomplishing this: that which I have more recently used and which I submit to the society as a sample of what may be done, consists of a glass tube (I employ an ordinary percolator such as pharmacists use) to one end of which a breathing tube is attached and to the other end through a cork the atomizing tube and also the tube from my tank of condensed air. I at one time used a double tank, or rather two tanks, with an air gauge and stop cocks, so that I could maintain any required pressure in the tank from which my patient breathes. This tank may be a simple boiler, such as

is used in kitchens for heating water for circulation through the house, say eighty gallons or more, or it may be in any other form desired. As the pressure is never great, not more usually than one-half or at most three-fourths of a pound to the square inch, it may be made of wood. A strong, tight cask or barrel even will answer the purpose. The ordinary form of pneumatic cabinet—the New York cabinet or the Pine cabinet—may be used as a tank, but it is unnecessarily heavy and clumsy and expensive. As I have a Pine cabinet in my office, I use it as a tank, with an 8 inch air pump for compressing the air. A copper or sheet iron tank that can be obtained of any plumber at a small fraction of the expense of the cabinet is quite as useful. Any physician who has a spray tube and glass vessel with two openings, a wolf bottle or even an ordinary wide-mouthed bottle, can provide himself with an apparatus just as useful as the pneumatic cabinet. By the use of a three way stop-cock expiration may be made into a tank of compressed or rarefied air, or against a valve supported by a spring of any desired pressure, or through a narrowed opening, so as to require force to expel the air from the chest. All these methods have been used and accomplish the same result, as expiration from the cabinet into outside air. The simpler the thing, provided it works, the better. The less mystery thrown around the whole subject, the better. I am quite confident that the physiological and therapeutical results obtained by the pneumatic cabinet are only such as may be reached equally well by the Waldenburg apparatus or by the still more simple means used some years since by the late Dr. Frank H. Davis, of this city. The apparatus is within the reach of anyone having a tank for condensed air for the purpose of atomizing or vaporizing medicinal substances, and requires no more skill or knowl-

edge in its use than is required to administer narcotics, anti-pyretics or anæsthetics.

REPORT OF A CASE OF CHRONIC PSEUDO-MEMBRANOUS BRONCHITIS. *By H. A. JOHNSON, M.D., LL.D., Emeritus Professor of Principles and Practice of Medicine in Chicago Medical College.*

[Read before the Chicago Medical Society, December 20th, 1886.]

Pseudo-membranous bronchitis is rarely met with. In making this statement I exclude the persistence of a diphtheritic bronchitis and croupous pneumonia, in both of which diseases the expulsion of false membranes may occur. It is perhaps not always easy to make an absolutely correct differential diagnosis of these cases. This difficulty rests upon the fact that (1) membranous inflammation of the bronchii of an acute character, such as diphtheria, may become chronic. I have seen several such cases, but in all of them the acute stage had been well marked, and the chronic condition seemed to be only delayed convalescence. (2) Croupous pneumonia may certainly become chronic, but so far as my own experience enables me to judge, the membranous exudate disappears with the acute stage.

The literature of the subject is quite voluminous in titles, as may be seen by reference to the index catalogue of the library of the Surgeon-General's office, but the number of cases is small.

Among the cases reported in our own country, one by Dr. W. C. Glasgow, of St. Louis, in a paper read before the American Medical Association for the year 1879, is especially noticeable. In this article the author embodies the

experience of several of the more prominent physicians of the United States.

Dr. Richardson, of New Orleans, "in a practice of nearly a third of a century" had "never encountered a case of plastic bronchitis."

Dr. Geddings, of Aiken, South Carolina, had "never met with a case." It should be remembered that Dr. Geddings had a very large experience in lung troubles.

Dr. F. R. Porcher, of Charleston, had seen one case.

Dr. T. G. Simons, of Charleston, had seen one case, and had known of three others in the practice of other physicians.

Dr. Jerome Cochran, of Mobile, says it is unknown in that section of the country.

Dr. James H. Hutchinson, of Philadelphia, had seen one case.

Dr. H. I. Bowditch, of Boston, had never seen a case.

Dr. R. H. Fitz, of Boston, had seen four specimens of casts. Does not seem to have seen the patients.

Dr. T. Parvin had seen no cases.

Dr. Geo. P. Andrews, of Detroit, had never seen or heard of a case in that region.

Dr. Roberts Bartholow had seen one well-marked case.

Dr. J. R. Leaming, of New York, had seen, in consultation, two cases.

Dr. Austin Flint, Sr., had seen three cases.

Dr. Gleitzman, of Ashville, North Carolina, had seen one case.

Dr. J. M. Da Costa, of Philadelphia, had specimens of casts from five cases; cannot say whether he had seen more cases.

Dr. Alfred Statle, of Philadelphia, sent report of one case.

Dr. P. E. Robinson, of St. Louis, reported one case.

Dr. Maxwell reports one case.

Dr. Samuel G. Armor, of Brooklyn, had seen "a few cases."

Dr. Frank Donaldson, of Baltimore, had seen one case.

Dr. Henry Gibbons, Sr., of San Francisco, had never seen a case during a practice of fifty years.

Dr. Charles Denison, of Colorado, had never seen or heard of a case in Colorado.

Dr. Baumgarten, of St. Louis, reports one case.

These facts collected by Dr. Glasgow in 1879, perhaps fairly represent the experience of the profession in America. I am, however, inclined to think that these meager statistics of the practice of some of the most active physicians and careful observers by no means give a correct estimate of the relative frequency of the affection. I imagine very many cases are never diagnosed, or if seen and recognized they are not recorded, and therefore lost sight of.

In the records of the literature upon this subject there are reports by L. H. Angel, *CHICAGO MEDICAL JOURNAL*, 1859, pp. 501 to 504.

J. S. Cohen, "Transactions of the Pathological Society," Philadelphia, 1876.

Austin Flint, Sr., "Medical Record," 1874.

J. H. Hutchinson, "Transactions of the Philadelphia Pathological Society," 1874.

A. L. Payne, *Stethoscope and Va. Medical Gazette*, 1852.

J. C. Reeves, "Pathological Society," Philadelphia, 1859.

P. G. Robinson, *St. Louis Medical Journal*, 1878.

S. Rogers, "Transactions Medical Society of New York," 1866.

L. Smith, *Medical Record*, 1872.

T. H. Streets, *American Journal Medical Sciences*, 1880.

E. D. Worthington, *Canada Medical and Surgical Journal*, 1876.

These, in addition to the case reported by Dr. Glasgow, comprise all the titles I am able to find in the United States and Canada. They evidently include also some of the cases referred to in the correspondence reported by Dr. Glasgow and briefly summarized above.

In some of these cases it seems to me there was simply an acute or diphtheritic inflammation running its course in a few days and terminating in death, with such symptoms as are seen in the ordinary forms of diphtheritic inflammation.

Among foreign authorities the reports are also meager. Eichhorst, in the last German edition of his work on special pathology and therapeutics, finds only 100 cases on record.

The article in Ziemssen's *Encyclopedia* gives a very clear statement of what is known as to the etiology and pathology of the affection.

Among other writers Cheyne thinks old age predisposing; Valleix doubts this.

Gintrac says that the larger number of cases are observed in adult life. If we exclude the cases of diphtheria extending to the bronchii, this is true.

The male sex is predisposed to the affection according to most authorities. Enfeebled health from previous disease, poverty, fatigue, exposure, are among the most common causes noted. Of course all these are so many synonyms for ignorance. The cause remains to be discovered. It may be some

local colony of parasites. The relation of this disease to the ordinary forms of membranous inflammation in some of which bacteria are believed to be a pathogenic factor suggests this, and perhaps makes it probable.

The relations to antecedent disease are by no means constant; neither diphtheria, nor simple bronchitis, nor pneumonia, except in rare instances, eventuate in chronic pseudo-membranous inflammation of the bronchial tubes.

Rugel says, "a special predisposition, or the influence of some special unknown agency is always essential in addition " to the hypothetical causes enumerated.

The pathology of the affection is better understood.

There is an exudate which coagulates upon the surface of the mucous membrane. This is often laminated by successive deposits. In the meshes of this coagulum a few leucocytes are found. The membrane proper is not necrosed, but continues to produce epithelium and the exudate is pushed off by the multiplication of this epithelium which in turn degenerates, becoming fatty and purulent. It seems also to be certain that while the mucous membranes do not become the seat of necrosis they do become the seat of morbid processes, possibly similar to that which in the endothelium of blood vessels determines the formation of a thrombus, and which in this case determines the formation of the plastic deposit.

The patient in this case is G. T. P., aged 37 years, a native of the eastern shores of the Adriatic. The family history on both sides is good. He enjoyed good health as a child and during his early manhood; at 17 had a suspicious sore, but apparently escaped any other manifestations of specific disease; was for several years a sailor, but abandoned that

calling at the age of 25. Has been for some years keeping a saloon.

Eight years ago he gives a history of pneumonia involving the right lung; was six weeks ill. His general health from that time was good, till in March, 1884, when he "caught cold." At that time he was in bed ten days, had cough with expectoration, but does not know what was the character of the matter expectorated; had pain in the right side, locating it in the mammary region, this was not severe, but it continued more or less at intervals to the time of consultation. The cough and expectoration also continued during the spring and summer with, however, upon the whole a slow improvement till four days before first seen, when he thinks he caught cold, cough became more troublesome and he spat up once only a little blood. He consulted me on the 23d of August, 1884.

I found him a well-built man, 5 feet 7 inches in height, dark hair and eyes, weighing when well 147 pounds, but now evidently much reduced, 125 to 130 pounds. He stated that he had lost his weight since last winter; his appetite was poor; bowels torpid; urine normal in quantity but high in color; pulse 75, temperature 99.3, respiration 17 per minute, sleep fair, tongue coated. The cough and expectoration led him to fear phthisis, and the consultation was had with the expectation that there would be found evidence of that disease.

Upon inspection the chest was found to be noticeably flattened, but not more so on one side than on the other; over the right side and especially in the mammary region vocal fremitus exaggerated. Upon percussion there was found dullness over the whole right side, the left side normal.

Auscultation revealed bronchial expiration over superior portion of right side, front and back. Left side normal. Cardiac sounds normal. The diagnosis then entered in the case book was a "pneumonia not completely resolved, with bronchitis." He was placed upon tonics, syrup hypophosphites with hydrobromic acid.

September 9th. Seventeen days later, he came again, and in every respect seemed to be better. No physical examination was made, but he was ordered to continue the medicine.

September 16th. After quite a severe coughing fit and the expulsion of a mass of what was found to be a cast of a large bronchus, he spat blood. The hemorrhage persisted, and he was ordered extract ergot in capsules, and to continue the syrup hypophosphites and acid hydrobromic. The diagnosis was corrected so as to read "chronic pseudo-membranous bronchitis."

September 23rd. Bleeding continued two days after last visit, none since. Has had a great deal of pain in the interscapular region, not more on one side than the other. At times very tender to the touch at right of the eighth dorsal vertebra. This he describes as a "soreness." Has expectorated thin pieces of membrane since last consultation.

Physical examination. Find no dullness over the right side, or as the record says, "no noticeable difference in the percussion noted on the two sides." This was one month after the first examination, when there was dullness over the whole of the right side. The breath sounds over the right side feeble, in every other respect normal. Pulse 68, temperature 98.6.

October 2nd. Had been doing well until yesterday, when he again coughed up a large cast of a bronchus. (I may remark that all of these which I saw were probably from the

first and second size tubes, and were from two to four inches in length.) After this there came what he describes as pus streaked with blood, but the hemorrhage not copious. The ergot had been stopped; he thinks he was better while taking it and asks to be permitted to return to it.

October 17th. The casts continue to be coughed up; microscopically they consist of coagulated plasma with a few leucocytes. Since the last date, October 2nd, he had been taking balsam copaiba and oleores. cubeb. with the ergot. I was under the impression that the copaiba had increased the plasticity of the exudate. Keeping in mind the specific history in his early life I thought possibly that there might be some lingering impression still. I therefore put him on pot. iodid. 0.50 t. i. d.

October 25th. Casts continue almost daily; continue pot. iodid. and add hydr. prot. iodid. 0.01 t. i. d.

November 5th, his wife comes to the office, says that he has thrown off a large number of casts, and each is followed by copious hemorrhage. Has continued to take the ergot, and is now a little better but weak; continue pot. iodid. and hydr. prot. iodid. and in addition $\mathcal{R}$ elix. calisayæ 450 and acid. sulphur-arom. 50.00 grams M. and take a dessertspoonful in water three times daily.

November 21st, patient comes himself. Has been better since last date. Has had no hemorrhage, or but little. Still a few casts, appetite has improved under the tonic. Bowels regular and sleep good.

December 26th, has been doing well till recently, but is now evidently losing in weight and strength. Hemorrhages from chest and occasionally from nose. Appetite poor. Bowels regular, or occasionally diarrhœa. This, however, does not persist. Has lancinating pains in the abdomen, more in the

epigastric region. Coughs up very few casts and these very thin and delicate. Has taken now the hydr. prot. iodid. since the 25th of October, 0.01 three times daily, and a part of the time 0.50 pot. iodid. He has also taken, according to the amount of hemorrhage, ergot at his own discretion. Stop both ergot and hydr. prot. iodid. and take syr. fe. iodid. c. c. 1.00 t. i. d.

January 9th, 1885, has been feeling better for the last two weeks. Appetite fair, bowels regular, no more pains in bowels since change in medicine, cough less, expectoration mucous, occasionally tinged with blood. No free bleeding and no casts. Has some pain in chest, bilateral, and not marked at any one place. Pulse 78, temperature 98, respiration normal.

During the last week in January his wife came, said that he was still coughing a little and that the expectoration was streaked with blood. I directed an emulsion of oleum terebinth, each dose containing 0.50 of the oil, three times daily, and to omit the ferri iodid.

February 4th, he was visited at his home. He has expectorated no casts since December 26th, 1884, but continues to cough sputum streaked with blood, and occasionally very slight epistaxis. Is still taking the turpentine; thinks the cough is looser than when taking the iron. During the past week has had a good deal of pain, intermittent in character, in the lower half of the right chest; has been in bed for last three days because of this pain.

Upon examination find the motions of the lower right side restricted; on percussion, dullness over the lower third of right lung, line of dullness seems to change with change of position; breath sounds indistinct, voice sounds exaggerated. Friction sounds distinctly heard over anterior portion of chest

when patient lying on back ; less so when patient is sitting up. Diagnosed, pleurisy, question of effusion doubtful; a hypodermic needle was introduced with negative results. Chest was ordered to be painted with iodine. The turpentine was continued.

Dr. Frank S. Johnson, to whom I am indebted for the larger portion of these notes, had made this visit, and on his return from the patient, in the extreme northwestern part of the city, became seriously ill. I was unable to look after the patient, and I asked my friend, Dr. S. D. Jacobson, to take charge of the case. This was, I think, on the 5th of February, 1885.

I beg to add extracts from a letter from Dr. Jacobson, giving in a general way the further treatment of the case:

"As to my ideas about the therapeutics of this case I can be short. I am not troubled with an *embarras de richesse*, but rather find my excuse in the old saw, *simplex sigillum veri*.

"The case was to me one of great interest, having never seen a similar one in twenty-five years of practice, and finding little or no mention of such cases in the books at my disposal. True, I have had one case of bronchial croup, which terminated fatally in a couple of days (a man about forty-eight years old). But your case had already been under your care and observation for several months before I saw him.

During the earlier months of my attendance he was about the same as when you saw him, intensely harassing cough with dyspnoea until relieved by the expulsion of greater or smaller masses of bronchial casts, which relief was generally paid for by severe hemorrhages, which told on the little strength he possessed before, so that he not only dwindled down to a skeleton-like appearance, but when able to sit up his legs would not support him, and his hands grew so weak that he could not for some time lift the spoon to his mouth. During

the summer of 1885 he improved some, but the fall and winter reduced him below his former level.

“Having no authorities to guide me in the treatment of such a rare case, I applied the general principles to the best of my abilities. I had two indications before me, (1) *indicatio symptomatologica*, and (2) *indicatio morbi*. As to the first class, I had in view the cough, dyspnœa, hemorrhages, weakening of all the organs and functions. Those I tried to meet by the exhibition of *solventia*, *expectorantia*, *narcotica*, *styptica et roborantia*. As to the *indicatio morbi* I was more in the dark, knowing almost nothing about the pathology or etiology of this disease. But I reasoned like this: Since our pathology seems to drift more and more into bacteriology, it is but just that our therapeutics follow suit and be more in the nature of bactericides and antiseptics. In this light I wish you to judge my prescriptions containing such poisons as arsenic, iodine, bi-chloride hydrarg. and iodoform, which appear in many of them.

“I must confess that my success was a great deal more than I dared to hope for, and though I firmly believe in the *vis medicatrix naturæ*, I also believe that a physician can be, and should be, in the words of Lord Bacon, ‘*medicus naturæ minister et interpres*.’”

During the summer of 1886, and again within the last few weeks, I have seen the patient, and find him perfectly recovered.

4, 16th street.

A PATHOGNOMONIC SYMPTOM IN THE DIAGNOSIS OF TUBERCULAR MENINGITIS.—*By* J. D. SKEER, M.D.

[Read before the Chicago Pathological Society July 26th, 1886, and referred to a committee, whose report is appended.]

In presenting this short paper on the differential diagnosis of tubercular meningitis I will not dwell on the pathology or treatment of the disease, and only briefly on its symptomatology.

The main object of the paper is to call the attention of the society to a symptom which I have never seen mentioned in the literature of the subject, and which, according to my observation, is always present during the first or second stage of tuberculous inflammation of the membranes of the brain. We all know the importance and difficulty in distinguishing between simple and tubercular meningitis in the acute stage, how each progresses from day to day with little variation, having remissions and exacerbations in common. The tuberculous cachexia may not be well marked, and a guarded prognosis is given in the hope that the disease may prove to be of simple inflammatory origin. A few cases do occur in which a diagnosis can be made with reasonable certainty, but with the majority this is impossible.

The symptom to which I allude is a small circle which forms in the iris, near to and completely surrounding the pupillary margin. When it begins to appear, it is very indistinct and resembles a wreath of thin, white clouds, the edge of which extends at first to the free border of the iris. In from twelve to thirty-six hours the whole margin of the iris will be involved, having become of a whitish or yellowish-brown color, and appearing irregular, thickened and

somewhat granular. These changes, which commence in both eyes simultaneously, are more apparent in irides of a brown color. In this connection we should remember that some children, especially those born of scrofulous or tuberculous parents, have a light colored circle *on* the free border of the iris, composed of cloudy and white fibres which radiate from the centre toward the circumference. This cloud-like appearance is in some cases very evanescent, hence the necessity of examining the iris at every visit. They may appear in the evening, and by the following morning have given place to the yellow-brown rings caused by the subsequent changes in the tissues. These later rings are permanent and grow narrower and larger with the progressive dilatation of the pupils as the disease advances.

In cases where tubercle bears an ætiological relation to the meningeal trouble, the circles appear early, before or during the decline of the fever which characterizes the first stage of the disease. In cases where the original simple inflammation has, by its nutritive changes, called into activity a latent tubercular tendency, they appear in the second stage of the disease. In no instance have I observed them in a simple acute case.

I first noticed this peculiar symptom some twenty years ago in a case occurring in my own family. At that time I attached no importance to it, but since then I have met with it in twenty or more patients, all of whom died. In two cases an opportunity of making a *post-mortem* examination was afforded, tubercles being found in each instance.

I have never examined the iris under the microscope, but it seems to me to be in harmony with the pathological anatomy of tubercular meningitis to regard this morbid process as an

infiltration of tuberculous matter into the perivascular sheaths of the circulus minor, followed by some degenerative change of the tissues of the iris. Nothing, however, but a careful microscopical examination can determine its pathological anatomy.

When the wreaths of white clouds appear in the iris in a case of cerebral meningitis, I consider the question of diagnosis settled beyond all doubt. They are, in my opinion, pathognomonic of tubercular meningitis, and enable us to make a positive diagnosis, and at the same time an unfavorable prognosis.

681 Washington Boulevard.

REPORT OF THE COMMITTEE ON DR. SKEER'S PAPER.

Your committee have carefully examined the literature of this subject, and, so far as their examination has extended, have found no mention of the exact condition described by Dr. Skeer. It is true that several authors give lengthy descriptions, among the best of which is Steiner's, of the relation of tubercular meningitis to certain eye symptoms, particularly the deposit of tubercles in the choroid, but the peculiar symptom here described is not mentioned. A deposit of tubercle in the iris is very rare even in the course of acute tuberculosis, and as a primary local condition it is doubtful if it ever occurs. Again, this condition differs so markedly in appearance (granulom of Steiner) from the symptom under consideration, that it is impossible that they should be confounded.

In view of the silence of the authorities on this subject, your committee entered into correspondence with a number of physicians especially interested in ophthalmology and pædiatrics.

Dr. Adolf Alt, of St. Louis, writes: "I have never observed the symptom you refer to, nor has it, so far as I know, ever

been described. It would indeed be of great diagnostic value if it could be established as co-existing always and only with tubercular meningitis."

Dr. Marcus P. Hatfield, of Chicago, writes: "I have no personal knowledge of any such symptom as you describe in tubercular meningitis. Neither do I know of any allusion to it in the literature of pædiatrics. The only reference, that I have met with, to any such condition may be found in Steiner, who says, after speaking of injection of the conjunctivæ in these cases, 'Keratomalacia in one or both eyes sometimes occurs.' Is it possible that this is what Dr. Skeer has observed?"

Dr. H. Knapp, of New York City, writes: "Your favor concerning Dr. Skeer's communication of a new symptom of tubercular meningitis has interested me greatly. I am not aware of having seen anything of the kind referring to tuberculosis, nor have I heard of it. It is difficult, however, to judge of such conditions without seeing them in nature. I shall anxiously look forward to the appearance of the full report."

Dr. Bock, of Vienna, Austria, writes: "I do not remember to have seen or read of a case like the one described. You know how difficult a pathological question is when one has not seen the particular case. I believe the appearance you mention is only to be explained on the theory of a marked congestion of the tissue of the sphincter pupillæ and its neighborhood, with singular (auffallend) and rapid exudation of the coloring matter of the blood into the tissues. This is an explanation of the color changes, and is, in my opinion, what most frequently happens. But one must exercise great reserve in accepting any explanation of this kind. No special eye trouble associated with cerebro-spinal meningitis has, so far as I know, been definitely announced."

Your committee have had an opportunity of seeing one case,* in the service of Dr. I. N. Danforth, at St. Luke's hospital.

This was a case of *tabes mesenterica*, with secondary involvement of the meninges of the brain. The eye appearances were declared by Dr. Skeer to be quite characteristic, though somewhat irregular in the fact that they existed in the prodromic stage. The light colored circles were symmetrical and distinct, but doubt is thrown on this observation, as they were not seen to *appear*. In other words, it is the development of this condition in the iris which will enable us to distinguish between the appearance of the eye in some scrofulous and cachectic children, and that in tubercular meningitis.

Whatever explanation of the phenomenon may be adopted, we hardly feel justified, from present evidence, in assuming that this is a distinct and peculiar symptom, only present in tubercular meningitis. If we assume that the appearances are due to a perivascular inflammation of tubercular origin, the importance of it as a symptom rests upon the known inconstant relations of other observed eye symptoms to tubercular inflammation of the brain. Tubercles of the choroid often exist without involvement of the meninges, and, again, tubercular meningitis may go on to a fatal termination without any observable invasion of the eye.

The suggestion of a plastic exudation by Bock furnishes a possible explanation. It will be observed that of the twenty fatal cases reported, in only two was a post mortem examination had. It is assuming too much to infer that, because the

* Since the preparation of this report a case of undoubted tubercular meningitis has been under the care of one of the members of the committee. The peculiar symptom under consideration did not appear in this case, though it was carefully looked for during the whole course of the disease, which terminated fatally.

remaining eighteen died, the disease was with them necessarily of tubercular origin. The intimate relation between the circulation of the brain and eye might lead to this inflammatory exudate in the iris *when the inflammation within the cranium had become so severe as to involve the functional integrity of the brain.* Additional support is given to this view by the fact that all the cases, in which this symptom was *not* observed, recovered. While it may not enable us to diagnosticate the character of the inflammation, it may be of great importance in indicating its severity.

Whatever may ultimately prove to be the value of the symptom, we are justified in regarding it as a strictly original observation, which may be termed "Skeer's symptom," until name is found which expresses its pathological relations.

HENRY M. LYMAN,
I. N. DANFORTH,
E. I. HOLMES,
HAROLD N. MOYER.

EDITORIAL.

SIGNIFICANCE OF THE PATELLA TENDON-REFLEX.

It would seem that the countless observations and numerous articles and monographs that have appeared on this subject within the last ten years would have settled the significance of this symptom beyond doubt. But such does not seem to have been the case, as the recent discussion of the subject before the Chicago Medical Society shows.

Perhaps too much importance has been attached to the mere presence or absence of the knee-jerk. There are well-authenticated cases in which it is absent in healthy persons. Again it frequently persists in cases of undoubted ataxia, which is the disease most frequently associated with its loss.

The proportion of healthy people who have an absence of the reflex appears to be small. The wide difference of views on this subject is due, largely, to different modes of testing. Any testimony regarding the absence of the phenomenon, in which the tendon was struck when covered by the clothing, is probably of little value, or that in which the blow was given with the ulnar side of the hand or the tips of the fingers. In all cases in which the reaction is uncertain the knee should be bared and the tendon struck repeatedly over its entire surface. If there is still doubt, the patient should be directed to clasp the fingers and excite a vigorous voluntary contraction just as the tendon is struck. This method greatly lessens the inhibitory power of the brain by concentrating it on the upper segments of the cord. Since this suggestion of Jendrassik,

the writer has never seen a healthy person in whom it was absent. This however does not agree with the experience of some others, particularly Professor Lester Curtis. Ross ("Diseases of the Nervous System," vol. I, p. 163) states that it is probable that the reaction may be absent in healthy persons, and quotes Berger, who examined 1,409 healthy individuals and found the reflex absent in 22, or 1.56 per centum.

It is conceded that Berger is a competent observer, and it was supposed that he knew how to elicit this reaction, but it is to be remembered that at the time his observations were made (February, 1879) the method of Jendrassik had not been pointed out. It is more than probable that, in the light of our present knowledge regarding the conditions under which this examination should be made, the percentage of Berger would have been very much lessened. Another circumstance of importance in this connection is the variability of this symptom in health and disease. In the same individual it will be at times very easy and at other times very difficult to elicit. Ross also mentions this fact (*ibid* p. 163). Another fact pointed out by Professor Curtis is that the views of those especially interested in neurology are based upon observations of dispensary and hospital patients, with weak nerves and still weaker bodies. He thinks that an examination of healthy, strong-willed and vigorous individuals would reveal a much larger proportion of those in whom the symptom is absent.

While the testimony is somewhat conflicting, we are justified in concluding that the *absence* of the symptom is a suspicious circumstance, yet, if other signs fail, it is not indicative of disease. The *loss* (i. e., those in whom it was present, but has disappeared) is a circumstance of the great-

est moment, and almost certainly indicates grave disease of the central nervous system.

The presence of the reflex in certain cases of well-marked ataxia which have gone on to a fatal termination, should lead to caution in diagnosis as well as prognosis in those cases in which other symptoms of ataxia are present.

SPAYING IN NERVOUS DISEASES.

A discussion on the subject of spaying or castration by Sir Spencer Wells, Dr. Alfred Hegar and Dr. Robert Battey, appears in the October number of the *American Journal of the Medical Sciences*.

Dr. Battey distinctly repudiates the doctrine that normal ovaries are to be removed for the cure of nervous affections. His paper opens as follows: "Within my knowledge, it has not been the practice of American surgeons to attempt the cure of mental and nervous disorders by the removal of healthy ovaries or of healthy tubes. The ovaries removed and the tubes as well have presented signs of disease—signs which are evident to the naked eye and palpable to the sense of touch. For the misconception on this point still existing, my own ignorance of the histology and pathology of the ovary is largely responsible, in that, during the early history of the operation, I removed ovaries which I erroneously supposed to be healthy, and gave to the operation the unfortunate and now obsolete name of 'normal ovariectomy.'" It will be seen from this that Dr. Battey does not regard the removal of normal ovaries in nervous and mental disease as ever justified.

This is substantially the position taken by Hegar, who lays down the rule as follows: "Castration is indicated in a psychosis evoked or maintained by pathological alterations in the sexual organs, and in a neurosis originating from the same source as soon as this imperils life or hinders all occupation and all enjoyment of life. * * * Castration must actually affect the cause which occasions or keeps up nervous irritation."

Sir Spencer Wells enters largely into the moral aspects of the question and assumes that healthy ovaries are being removed for the cure of nervous diseases. He considers that in nymphomania and mental diseases it is, to say the least, unjustifiable, and it should never be done without the consent of a sane patient. The operation may be advised in uterine fibroids, uncontrollable hæmorrhages, malformations and certain rare cases of ovarian dysmenorrhœa.

It will be seen that Battey and Hegar are in substantial accord on the main point at issue; regarding pathological changes in the ovaries as the possible starting point of nervous irritation, and justifying their removal in cases where this relationship can be clearly traced. It is to be regretted that Sir Spencer Wells did not discuss more fully the point at issue. We are left in some doubt as to just what his views are regarding the removal of *diseased* ovaries when a complicating factor in neuroses.

We are introduced to another aspect of this question by an interesting discussion opened by Schroeder in a recent meeting of the German Society of Naturalists (*Tagebl. d. Vers. Deutscher Naturf. N. S. W. zu Berlin*, 1886, p. 310). Schroeder adopts the division of *oöphorectomies* as given by Hegar. First, those cases in which the ovary is removed for disease of the

organ, and, second, those in which they are removed to hasten the advent of the menopause. He regarded the first class as belonging entirely to general surgery, and the indications are to be arrived at by the application of general surgical principles. The ovaries are removed because they are cystically degenerated or chronically inflamed. If one ovary is diseased, it only is to be removed, and, under certain conditions, only the affected portion. The principle is, however, very different when the operation is to hasten the menopause. In these cases both ovaries must be completely removed, and the operation is at times indicated when the ovaries are healthy. This conclusion Hegar will not admit, claiming that the operation is only admissible when the effect of the menopause is desired on the genital tract (tumors, etc.), or when neuroses are dependent on some pathological change in the structure of the ovary. This view Schroeder will not acknowledge, and he forcibly observes that there is a great difference whether the operation is made for a diseased ovary, or for its effects on a tumor in the uterus. The first case does not belong to castration in its limited sense, while in the second a healthy organ is removed for its effect on another diseased organ.

In support of his views, Schroeder observes that in just the same way in general neuroses we can remove healthy ovaries to obtain a healing effect on the whole organism. Whether and how far neuroses depend on pathological changes in the ovary we know not. Hegar himself admits that they are not always found where considerable alteration has taken place.

Schroeder further observes that severe neuroses often disappear with the advent of the natural or artificial menopause without pathological changes in the ovary. Then the demand of Hegar is difficult to satisfy, as we cannot define just what is the normal condition of the ovary when small cysts or

hardened condition of the stroma are to be termed pathological. The operation in uterine myomas is entirely empirical, and even so can the usefulness of the operation in neuroses be settled by experience alone.

Hegar in his reply said that he would like to correct two misunderstandings regarding his position. He had never rejected the operation for the removal of healthy ovaries, but had only insisted on the presence of an aetiological relation between the neurosis and pathological changes in the sexual apparatus. He had not absolutely rejected castration in perfectly healthy organs, but had only said that in the present state of our knowledge the operation lacked foundation. Certain it is, that severe and life-embittering nervous troubles follow sexual diseases and a cure by castration is possible. The small cystic generation and the so-called cirrhosis of the ovary are as yet but little studied affections; at times they cause little trouble, at others they are capable of causing nymphomania, epilepsy, or even insanity. It is difficult to determine the exact relation between cause and effect, but the changes in the ovary alone furnish an indication. Pregnancy, parturition, and child-bed, doubtless cause neuroses, but here other causal factors, heredity, etc., often play an important part. Much more difficult is the decision in the so-called menstrual neuroses. Hegar has never seen a case reported in which menstruation can be regarded as the sole or most important cause of a severe neurosis. Shall it then be considered that menstruation, in an intact condition of the organs, is the cause of many serious neuroses, and that its removal would heal the disease? Hegar would not acknowledge the correctness of this view. The founding of an operative indication on the effect of the climacteric on the

organism is still more difficult. A quieter temperament and better nutrition are the usual results, but are they a sufficient indication for the performance of the operation? The conditions which govern the often favorable and again unfavorable influences of the climacteric on psychoses in different individuals, are not known.

Freund reported a case of ovarian hysteria in which the removal of a dermoid tumor of the left ovary had no effect on the disease.

Olshausen agreed fully with the views of Schroeder. The small cystic ovary, while it may be associated with sexual excitement, is doubtless often a non-pathological appearance to be observed especially in pregnancy and the puerperium. He wished to observe that Hegar had made an important concession when he admitted that clinical evidence of the relation of neuroses to the function of the ovary sufficiently indicated castration.

Landau accepted the conclusions of Schroeder, that at present it is clearly empirical whether in severe neuroses we should castrate or not. Theoretical considerations do not help here. We dare recommend castration in doubtful cases when all other means have been exhausted. A criterion is furnished by one symptom which in Germany is not sufficiently acknowledged—the so-called ovarialgia. Since the report of cases made by him and Remak, he has had three cases in which castration did not relieve the pain. In these cases the ovary was free from change, and the pain was dependent on some central cause similar to that in trigeminal neuralgia. Landau thinks that in severe neuroses castration should not be done where this symptom is present. Dr. Battey reports 20 cases of oöphoralgia of which 13 were cured, 3 improved and 4 un-

improved. One should also be chary of the importance given to cases reported as cured, as the same results have been reported from clitoridectomy and even cauterization of the clitoris.

Gusserow agrees with Shroeder and Olshausen. Observations like Freund's are of little importance, as it has long been known that tumors may occur in any epileptic individual, and their removal have no effect on the disease. So little is known of the essential nature of epilepsy, and its numerous causes, that, in all of these cases, before operating we should be sure that it has a relation to the ovarian function.

A brief analysis of the foregoing discussions reveals the present estimate of castration. Sir Spencer Wells regards the operation as absolutely unjustifiable in all cases where it is undertaken for the relief of nervous diseases. Hegar insists on a pathological change in some portion of the genital tract that bears an ætiological relation to the nervous disturbance. He is, however, prepared to admit that clinical evidence of the relation of the ovarian function to certain nervous diseases, *may* indicate castration, even in a normal condition of the ovary. To this latter view are committed Schroeder, Olshausen, Landau and Gusserow.

FOREIGN CORRESPONDENCE.

To the Editors of the CHICAGO MEDICAL JOURNAL AND EXAMINER.

Gentlemen:

Professor Mariano Semmola, of Naples, is a man whom Italy delights to own and to honor. He is no stranger to the medical world, his works are renowned for thoroughness in investigation and originality. Anything from his pen is worthy of special attention. In 1883, the learned professor read before the Academy of Medicine, of Paris, an elaborate and scientific paper on the hæmatic and discrasic origin of Bright's disease. Although at that time his address received great attention, it yet met with some opposition. But this did not deter him from adhering to his theory. To convince his opponents he immediately began another series of experiments which impressed him more fully with the truth of his views. He then sent another communication to the academy on the same subject, which, being of special interest to the students of renal pathology, I have endeavored to summarize.

Professor Semmola believes that the elimination of albumen from the organism is due to its pathological diffusibility. Albuminuria happens without any previous alteration of the epithelium of the tubes, or of the glomeruli of the kidneys. It is nothing but a natural and a necessary effort of the organism to expel what is foreign to itself. But if this eliminating functional work continues, the kidneys become the seat of a morbid change, from a simple hyperæmia to a diffused nephritis. Professor Semmola was enabled to produce a true experi-

mental nephritis with injections of albumen taken from patients having Bright's disease. The contradictory results so far obtained with the injections of blood serum are easily explained, for the fundamental condition, so far as known, which causes the elimination of the albuminoids of the blood, resides in their pathological diffusibility. Before making any injection it is necessary to know the proportion of the dialysable albuminoids contained in it, and with this simple knowledge we can easily foretell if there will be any albuminuria after the injections. This is the starting point of any conclusion as to the assimilability or not of the albuminoids. In infectious diseases, as smallpox, scarlet fever and diphtheria, there has been found in the blood during the first few days a large quantity of dialysable albuminoids (15 to 22 per centum), and we cannot believe that this albuminuria is due to any nephritis. The old authors were in the right, believing it of a discrasic origin.

The subcutaneous injections of egg albumen, if continued five or six days, will produce a true albuminous dyscrasia, so that the total quantity of albumen eliminated day by day through the different channels becomes larger than the amount which was injected. Gradually, as the albuminous dyscrasia is produced, and the elimination by the urinary tract increases, there is also a decrease in the quantity of urea eliminated, notwithstanding that the regimen and other conditions of life of the animal have not been changed. After fifteen or twenty days of these albuminous injections we can easily detect, besides the albuminous dyscrasia, a serous infiltration (anasarca) and light dropsies of the cavities. Do not such effects show the experimental production of a genuine form of Bright's disease? 1st, albuminuria; 2d, albuminous dyscrasia, with progressive diffusibility of the albuminoids of the blood; 3d, diminution of urea production; 4th, dropsy; 5th, nephritis.

The only important factor which is defective in this succession of phenomena in the dogs submitted to experiment is the progressive enfeeblement of their cutaneous function, coming on in consequence of the action of humid cold. But that which in similar circumstances experimental pathology cannot give us we get from clinical experience, when, for example, we find in a scarlatinous patient symptoms of albuminuria during the stage of desquamation preceding or accompanying convalescence. This albuminuria, which we might call post-scarlatinous, is of much greater gravity than that which comes on in the acute stage of scarlatina. This same clinical experience gives us valuable ideas on the pathogeny of Bright's disease, be it acute or chronic. The acute is always due to a rapid chilling of the skin, and in consequence the congestive effects on the kidneys are considerable, and prevail on the dyscrasic effects which at this stage are not manifest. On the contrary, in the chronic the effects of humid cold being excessively slow, the mechanical effects on the kidneys will be insignificant, while the dyscrasic effects are greater. In the acute they are rapid, and therefore their evolution and curability exceptionally leave the limit of curability of the ordinary acute diseases; but in the chronic they develop slowly and without any knowledge on the part of the patient. Latent and insidious, little by little, they affect the principal seats of nutrition, that is, the chemico-biological constitution of the albuminoids, producing chronic Bright's disease. From all his researches Professor Semmola has drawn these conclusions: 1st. For the etiology, the excessively slow action of humid cold on the skin. 2d. For the alterations, a progressive diminution of the cutaneous function, due to atrophy of the sudoriferous glands, or to changes of the malpighian layer. 3d. A chemico-molecular alteration of the albuminoids

due to the alimentation, an alteration characterized by their pathological diffusibility and, in consequence, by their non-assimilability, and by their necessary diminution through all the emunctories, principally the kidneys. 4th. A progressive diminution of combustion of the albuminoids, which is indicated by a progressive lessening in the formation and elimination of urea. 5th. A serous, subcutaneous infiltration, commencing in the face with erratic and progressive characters, but excessively slow, not in keeping with the hydroæmia. 6th. A characteristic cachexia not in relation with the loss of albumen, but with a general defect of assimilation. 7th. The secondary development of an inflammatory process of both kidneys at the same time, an excessively slow process affecting the organs with the histological characters of a diffused nephritis.

Regarding the *unity* of the disease, Professor Semmola is a strong opponent of those who formulate their theory with the words: *clinical unity* and *anatomical plurality*. He says: "It is impossible to admit the principle of the clinical unity with the plurality of the anatomical lesions. The empirical acceptance of the name of Bright's disease applied to completely different diseases would not honor the discovery of the celebrated English physician; the true chronic disease of Bright is a constant, well-marked, morbid type, and agrees with the etiology, evolution, pathology and treatment."

Now as to treatment: Since 1861 Professor Semmola, believing in the secondary character of the renal process and in the great importance of the cutaneous functions, pathogenically as well as curatively, obtained some complete cures with the hydro-sudoriferous plan of treatment. Today the majority of clinicians recognize the possibility of

curing the disease when it has not yet reached the confirmed anatomical stage, that is, when there has not occurred in the kidneys any destruction of some histological elements indispensable to their function. The following are the fundamental indications for treatment:

1st. To nourish the patients with easily digested substances.

2d. To methodically assist the cutaneous functions by stimulating the vitality of the skin.

3d. To favor by every possible means the assimilation, combustion and elimination of the albuminoids introduced into the organism.

The treatment of Bright's disease during its long period of curability ought to be: 1st. Exclusive lacteal regimen. Milk acts in a wonderful manner in these patients, not only because of its diuretic properties, but still more because of its assimilability. It ought to be continued for a long time.

2d. Methodical and repeated impressions on the skin by dry friction, by massage, and frequently by means of hot-air sweatings. Hydrotherapy is not well tolerated by patients because of the little functional and sanguineous reaction of the skin. 3d. Patients must live in temperate and dry surroundings. This is the *sine qua non* condition of success.

In winter, and especially in the variable climates, the patient must substitute room gymnastics for walks in the open air

4th. Administer the iodide and the chloride of sodium in progressive doses according to tolerance. 5th. If after two or three weeks the albumen has not yet completely disappeared, although there be no traces of anasarca, the iodide of sodium ought to be exchanged for the phosphate of soda or of lime (3 to 4 grains in 24 hours). 6th. Methodical inhalations of oxygen; the albumen sometimes disappears in

a few days, while the morphological elements persist for some time in the urine. 7th. Do not use astringents (gallic acid, perchloride of iron, acetate of lead), they are of no benefit, but harmful; for, admitting that these remedies have an astringent action in all sanguineous and capillary network, the capillaries of the skin must also feel the effect, and such an action will only produce a considerable enfeeblement of the cutaneous functions. These astringents would act in a manner precisely opposite to that which forms the principal plan of treatment of Bright's disease, according to the opinion of all physicians without distinction of doctrine.

Those who find in anatomical lesions of the kidneys the only cause of Bright's disease, will do well to ponder over Professor Semmola's theory.

I have just received the mournful news of the death of Professor Felice Margary of Turin. He died of intestinal cancer. He was among the most eminent surgeons of Italy, certainly the best on orthopædic surgery. In 1863 he entered the major hospital as an assistant physician; in 1868 was nominated assistant surgeon; in 1879 was promoted chief surgeon, which important office he held till his death. He possessed a wide European reputation for his skillful orthopædic operations, obtaining wonderful results. For the past three years he was an associate editor of the *Archivio di Ortopedia*. There appeared in the 2d, 3d and 4th numbers his last and most important article, giving the history and successful results which he had obtained in 207 osteotomies for the relief of genu-valgum, 83 for genu-varum and rachitic curvatures of the bones of the inferior limbs, 18 for angular position of the knee, 12 for deformities of the hip, 23 for equinus feet, equino-vari, valgi, etc., etc.

The poor will most keenly feel his loss. After operating on them, he would support them financially and otherwise through their illness, and tender in every way paternal attention and help. He was the admiration of his assistants and students, for few teachers were equal to him in brilliancy of oratory and learning. The funeral ceremonies were solemn and impressive, worthy in every way of the great surgeon.

A. LAGORIO.

Chiavari, Italy, December 2nd, 1886.

SOCIETY REPORTS.

CHICAGO MEDICAL SOCIETY:

Stated Meeting, November 15th, 1886.—E. J. DOERING, M.D.,
PRESIDENT, in the Chair.

PROFESSOR LESTER CURTIS read a paper on

THE ABSENCE OF THE PATELLA TENDON-REFLEX,
in which he enumerated a number of cases of persons in apparently good health in whom the patella tendon-reflex cannot be elicited, such being the case with the author himself. He quoted from authors who had made similar observations, and who had also found the patella tendon-reflex present in diseases in which it is not expected. These variations in the presence and absence of the patella tendon-reflex were so frequent that he was inclined to question its absence as an important sign of nervous disease. He believed it to be a sign that had received undue attention.

PROFESSOR D. R. BROWER, in opening the discussion, said he had been very much interested in the paper. He had found the patella tendon-reflex occasionally absent in health, but very rarely. Since the suggestion was made by Jendrassik that an effort be made to increase the general muscular tension by having the person pull upon the fingers of one hand linked into those of the other, which was brought to Professor Brower's attention about a year ago, he had been able to elicit the patella reflex in healthy persons when otherwise he would have failed. He thinks it is necessary in doubtful cases that the blow be struck upon the naked limb. He thinks it is occasionally absent in health, and it has been his habit in teaching to always say in regard to the patella tendon-reflex that it is the loss and not the absence—we have first to know that the person had patella tendon-reflex before we can regard its absence as pathological. He has taken that view of the matter for a long time. As to the presence of tendon-reflex in locomotor ataxia, the President will remember one of the patients seen three or four years ago in whom patella tendon-reflex was present and in whom all of the other symptoms of locomotor ataxia were present in a marked degree. Professor Brower met with that condition in one or two other cases. He thinks that in these cases the degeneration has not commenced in the usual place. At the meeting of the American Medical Association an interesting paper on this subject was read by Dr. Zenner, of Cincinnati, who has made very extensive observations upon healthy people as well as upon the insane, with a view of determining the real value of this sign. He also is of the opinion, that if all precautions are taken it is a remarkable thing for it to be absent in a healthy person. In the case cited by the author of this paper, there would seem to be a part of the spinal cord that was not entirely destroyed,

possibly enough to admit of the passage of the stimulus from the sensory nerves.

DR. H. N. MOYER said, regarding the manner of eliciting the patella tendon-reflex: Unless very great care is exercised in determining that the reflex is absent, the observation has very little value. In testing this reflex he prefers to have the leg rest across the back of the wrist, by which means we easily detect any tension of the hamstring muscles, which greatly interferes with the reaction. As to the manner in which the tendon should be struck, he does not believe that the surface of the ulnar side of the hand is the proper thing to elicit it, and the ordinary rubber hammer is not quite heavy enough for that purpose. The best thing is a steel hammer with a small rubber tip. In doubtful cases care should be taken to percuss the tendon over its entire surface. He has seen a number of cases in which he supposed the patella tendon-reflex was absent in undoubtedly healthy persons, but since this new manner of increasing muscular tonicity by lessening the inhibitory power of the brain over the lower spinal centers has been adopted, he has never seen a case in which the patella reflex was absent in a healthy individual. There is one other point in regard to the difference in the amount of the reflex obtained when this procedure is employed and when it is not. There are certain qualitative variations which have not been pointed out. He has under his observation at present two cases of chorea in which there is only the slightest evidence of patella tendon-reflex on percussion in the ordinary way, but when the patients are required to clasp the hands and the patella is then struck, the reflex is markedly exaggerated. He thinks in some cases this procedure will enable us to diagnose between the neurasthenia of cerebral and of spinal origin. He has one undoubted case of locomotor ataxia in

which the patella tendon-reflex is present. In the two cases of Westphal, which have been recently published, the microscope revealed the morbid processes in the lumbar portion of the cord to be largely confined to the points of entrance of the posterior roots, and also to a slight extent involving the lateral columns. This probably obtains in the cases reported to-night.

DR. J. J. M. ANGEAR said he did not know that we can come to the conclusion that our patient is suffering from locomotor ataxia when we find the patella tendon-reflex absent. He recalled to mind a patient who was under his care about two years ago, in whom the patella tendon-reflex was entirely absent. There was unsteadiness in gait, a little wavy motion when attempting to stand erect, with eyes closed and feet close together, and the patient walked with a cane. There were symptoms of congestion of the cord, a feeling of a heavy weight at the feet, that peculiar sensation known as girdle feeling, which improved on lying down. The patient improved somewhat under the use of mercury and iodide of potash. (He learned afterwards that when a young man he had had syphilis, but it has not shown itself since.) This was two years ago, and the patient is no worse to-day, but it seems that he ought to be a great deal worse if it was locomotor ataxia. If we fail to elicit the reflex by simply striking the tendon, we can get it, if it is present, by engaging the patient in conversation about something foreign to himself and then suddenly striking the tendon. In regard to cases where it is absent in apparent health, we should emphasize *apparent*, for we have no positive evidence that the nervous system is in a normal condition in such cases, and one should be a little skeptical with regard to the patient's perfect health if he had

taken all the precautions for securing this action and then found it absent.

DR. ROBERT TILLEY said he wished to bear testimony to the truth of Dr. Curtis's observations. He had seen a small number of persons that he considered average healthy individuals in whom he had not been able to elicit the patella tendon-reflex. He had not caused the patients to bare the leg, but had employed other devices to satisfy himself that if the tendon-reflex was not absolutely absent it was certainly diminished in its activity. He would like to emphasize the fact that it seems under certain circumstances to be obtained when struck upon one side or the other when it cannot be obtained by striking the tendon in the center. On several occasions it struck him as desirable in post-mortem examinations to have a microscopic examination of the tendon itself, and see if some peculiar changes might not be visible in it. He would ask Dr. Curtis if he knows of any histological investigations in that direction. He recently saw an article giving an account of a case where the tendon-reflex seemed to be absent, but on the administration of a small dose of morphia it was elicited. No mention has been made of what may be called a normal tendon-reflex, although the exaggerated form has been referred to, and he did not know whether any one here would venture to give a definition of a normal tendon-reflex in opposition to an exaggerated one. He was disposed to take exception to Professor Curtis's explanation of the tendon-reflex, that it is most likely to be found in individuals who are a little scary, are easily frightened, easily thrown off their guard, or persons of that character. He said he does not think he would be easily thrown off his guard, but in his case the tendon-reflex is markedly

present, so much so that those who would distinguish between the forms would say that his was an exaggerated form.

DR. J. FRANK said he had a theory as to why the tendon-reflex might be absent in a healthy person. In order to get the reflex the tendon must be put on the stretch, and there are such things as abnormal patella tendons. If the ligamentum patellæ is abnormally long when the leg is flexed the tendon is not put on the stretch; if lax and cannot be made tense, it might be struck all day without any result. He thinks this will explain why in some people the tendon-reflex is absent. When he was a student his preceptor tried it on him, but could not get any tendon-reflex. It seems that at certain times his tendon answers to the blow and at other times it does not; still he has been in good health all his life. Where the tendon-reflex is absent without other symptoms the tendon should be examined.

PROFESSOR J. S. JEWELL said that in tendon-reflex, when the muscle is struck a shock is given to the sense-nerves. He had met with a large number of cases in which the patella tendon-reflex could not be obtained by the ordinary impulse, but which he had been able to elicit by other means. He thought locomotor ataxia did not depend so much upon loss of sensibility in the muscles themselves as in the great numbness of the feet. He had had cases of locomotor ataxia in which the only symptom was acute sensibility to temperature, and another who had no sensibility on the right side except in the nates.

DR. JOSEPH ZEISLER read a paper on
THE USE OF ICHTHYOL IN THE TREATMENT OF SKIN DISEASES,
which appeared in the December number of the JOURNAL AND
EXAMINER.

PROFESSOR G. C. PAOLI said: There is no one remedy that we can positively rely on in the treatment of skin diseases. This new remedy, ichthyol, was used by Dr. Unna, of Hamburg, but he combined it with other ointments. We cannot treat all the stages of skin diseases with the same remedy. Ichthyol has a fetid odor, and he should think it would be obnoxious in use. He had not had an opportunity to try it.

DR. E. J. KUH said: Not enough time has elapsed to express either a final condemnatory or laudatory opinion on ichthyol. The physiological experiments by Baumann and Schotten are entirely insufficient, and the conclusions reached are practically no conclusions at all. Our clinical knowledge has been sufficient to show its value in skin diseases. And as Dr. Zeisler has confined himself to a discussion of its use in his specialty, a few words bearing on the application of ichthyol in other diseases may not be out of place. Lorenz and Unna are its chief recommenders. The former in the beginning applied it in acute and chronic articular rheumatism, and to judge from the experiences of others, including himself, who have used it in this direction, there can be no doubt that it is a very strong adjuvant in this disease, and that the exhibition of salicylates is promoted in its efficacy when used in conjunction with ichthyol salve. Lorenz extended its use to gout, muscular rheumatism, contusions, gastric troubles, etc. Unna, whose enthusiasm is so unbounded as to inspire distrust, barely finds a limit to its usefulness. It is a mild anti-tuberculosum, has cured asthma in an eczema patient, will cause immediate demarcation in erysipelas, etc. It is a suspicious characteristic of new remedies that they are wonderfully multiple in their therapeutic action. Time, the great enemy of the Pharmacopœia, is their surest test. Let us hope that it may deal gently with ichthyol.

PROFESSOR JEWELL thought a great deal of attention should be paid to the constitutional conditions, and especially to the neurotic aspect of cases of eczema. He had met with success in the treatment of skin diseases by a current of large quantity and mild intensity from an electric battery.

PROFESSOR JOHN A. ROBINSON said that the literature on the subject of ichthyol is very meager except what is found in foreign and special journals. He was sorry that Dr. Zeisler did not give a fuller description of the drug, in order that general practitioners might become more familiar with it. Undoubtedly many of the members present thought it a proprietary preparation, and therefore will not investigate its merits more closely. During the past year a large number of new remedies have been introduced which unfortunately bear a foreign patent, although the manner of manufacture is known. While opposed to prescribing secret proprietary preparations, he believed the therapeutical action of such drugs as ichthyol, antipyrine, thallin, etc., should be studied.

DR. R. TILLEY said that it was to be regretted that the author did not present some cases that were treated solely by ichthyol; for instance, the case that went to so many physicians, the salicylate given would be likely to exert quite as much influence as the ichthyol, and the same might be said of the case treated by hydrarg. ammoniatum. It is really difficult to form an estimate as to what we can expect from ichthyol by the result of the combinations which the author found it necessary to use.

DR. ZEISLER, in closing the discussion, said that he did not think of recommending ichthyol as a panacea; on the contrary, he was afraid that it would be overestimated, and that some would use it in cases where it might not be beneficial. As to the remarks of Dr. Kuh, the physiological effect of ich-

thyol was not tested by experiments on animals, but was inferred from clinical observations. He was very much interested in Dr. Jewell's suggestion, and referred to the well-known forms of neurotic eczema. Ichthyol has been found in Tyrol, Austria, in some bituminous rocks. He was unable to tell anything about its manufacture; Mr. Sargent gets it directly from Germany. In reply to Dr. Tilley, he said it was true that in some cases he could not say how much of the benefit was due to internal and how much to external treatment, how much to ichthyol, and how much to other remedies. But his observations on ichthyol might still have some value when compared with other cases where *ceteris paribus* it is not used.

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.

Regular Meeting, Friday, November 19th, 1886.—THE PRESIDENT, CHARLES WARRINGTON EARLE, M.D., in the chair.

DR. W. W. JAGGARD read a paper, entitled:

A CASE OF CHRONIC INVERSION OF THE UTERUS, OF TWENTY-ONE MONTHS' STANDING, REDUCED BY COL-PEURYSIS.—ABSTRACT.

History.—E. S., 36 years old, German; married at the age of 22 years; seven children, no miscarriages. Her first six confinements were normal. She was in the habit, common among German peasant-women, of rising upon the third day and of making up her own bed. In each of her labours she was attended by a midwife.

Her seventh confinement occurred in October, 1884. According to the statement of the patient and the attendant midwife the delivery of the child was normal. The placenta

was removed, as in the six former labours, by traction on the cord. During the labour and the *puerperium* no unusual loss of blood was observed, and the patient does not remember any extraordinary sensations of pain or faintness. The midwife consulted a physician on the second day of the lying-in period, with reference to the sudden development of high bodily temperature. On the same day a well-known obstetrician saw the case. He made the diagnosis of puerperal fever, instituted the usual plan of treatment, but declined further connection with the case as he feared the infection of his regular puerperal patients, of whom he had a large number. No examination of the uterus, either by abdominal palpation or vaginal exploration, was made. On the third day an equally competent practitioner inspected the patient, confirmed the diagnosis of puerperal fever, and gave directions with reference to treatment. The contour of the uterus was not investigated either through the abdominal parietes or by the vagina. He continued to visit the patient for eight days, when he pronounced her convalescent. At the expiration of three weeks the woman rose from her bed for the first time, when she observed a fleshy tumor protruding from the vulva. Seven weeks after delivery she resumed her work as a washer-woman. She suckled her child fourteen months. During this period painful coitus and the sensation of the presence of a foreign body within the vagina were the only symptoms which attracted her attention to her condition. She noticed no fluor, no hemorrhage, and felt no pain except during coitus. The sexual act was not attended by any perceptible loss of blood. On account of the two symptoms mentioned she sought

medical advice. The fleshy mass, situated entirely within the vagina, was supported by a large sponge.

The child was weaned in December, 1885. About March 17th, 1886, she experienced severe metrostaxis, entirely without pain, and lasting six days. She supposed menstruation had been re-established, and gave the subject no further thought. About April 15th another severe hemorrhage occurred, painless, and lasting one week. On May 28th she came under the writer's observation, and was admitted into the wards of Mercy Hospital. She sought relief, as she very distinctly expressed it, on account of painful coitus, the sensation of the presence of a foreign body within the vagina, and the excessive loss of blood during her last two menstrual periods. The woman was of medium size and height, with well-developed muscles and clavicles like a man's. She presented evidence of marked anæmia.

Diagnosis.—Bi-manual palpation revealed a pyriform tumor, the size of a hen's egg, protruding through the *os uteri*. The base of the tumor rested upon the pelvic floor, and upon coughing or straining appeared at the genital fissure. A shallow sulcus between the pedicle of the tumor and the walls of the cervical canal extending around the left semi-circumference of the canal, could be felt by the finger and traced with the sound. On the right side, no sulcus could be detected, and the membrane covering the tumor was reflected directly upon the external os. The long axis of the tumor was deflected to the left of the median line. The *corpus uteri* was absent from the normal position. The tumor, insensitive to pressure, was covered with a soft, villous membrane, and possessed the consistence of an œdematous myoma. The enveloping membrane was of a bluish-

red color, presenting some spots of superficial ulceration, and bled upon the slightest touch. Tubal ostia were nowhere visible. Traction of the tumor downwards caused the sulcus on the left side to disappear entirely, an important diagnostic sign of inversion of the uterus, to which Carl Braun, Robert Barnes and Schroeder in particular have called attention. Reamy, of Cincinnati, has recently described a sign which might have furnished corroborative evidence at this stage of the diagnosis in the case under consideration. Reamy says that when the tumor, grasped by the fingers within the vagina, can be easily rotated on its vertical axis, it is probably a polyp, since such rotation could not occur to any marked extent in an inverted uterus, stiffened as it is by its muscular walls and the thick, strong, fibrous guy-ropes furnished by the broad ligaments.

To make the differential diagnosis between inversion of the uterus and a pedunculated fibroid, positive, the patient was etherized. A sound in the bladder and a finger in the rectum were easily approximated above the tumor. The funnel-shaped cavity at the seat of inversion was easily recognized by the finger in the rectum, and by the hand on the abdomen in bimanual palpation.

No appearances were present that would indicate the invasion of the uterine walls by any new formation.

Treatment.—The patient was etherized, the contents of the rectum and bladder were evacuated, and the genitalia disinfected. The right hand was passed into the vagina, “and with the fingers and thumb encircling the portion of the body close to the seat of the inversion, the fundus was allowed to rest in the palm of the hand. This portion of the

body was firmly grasped and pushed upward, and the fingers were then immediately separated to their utmost; at the same time the other hand was employed over the abdomen in the attempt to roll out the parts forming the ring, by sliding the abdominal parietes over its edge." At the expiration of forty-five minutes, the writer's right hand was almost powerless, and Dr. E. C. Dudley kindly relieved him. Dr. Dudley gave up the attempt at reduction after thirty minutes' trial, fearing perforation of the fundus. Apparently not the slightest progress in the reinversion of the organ had been made. Some hemorrhage occurred as the result of manipulation, although the fundus had been enveloped with absorbent cotton and gauze. The manœuvre was repeated on the following day, under the same conditions, through the same period of time, with no more favorable result.

Emmet's method was then abandoned for the following reasons: The separation of the fingers to their utmost had no effect whatever in the dilatation of the *os externum*. As pointed out by Fenger, and as brief reflection will convince the most casual observer, mere extension of the fingers can have but little effect in the dilatation of the cervix, owing to the relatively feeble character of the extensor muscles of the fore-arm. The necessary manipulation of the congested *mucosa*, even when protected by cotton or gauze, caused a loss of blood of moment in an already anæmic woman. The uterine musculature had evidently undergone fatty degeneration and there was serious danger of perforation. Finally, there was reason to entertain fear as to the patient's power to endure the shock from taxis and the effect of prolonged anæsthesia.

Compression of the body of the uterus opposite to each

tubal ostium between the thumb and forefinger, so as to produce indentation of one side or the other—the Kimich Nøggerath method—was equally ineffectual.

On Sunday, May 30th, at the suggestion of Dr. W. H. Byford and Dr. Christian Fenger, the writer began an attempt to effect reinversion by colpeurysis. After the evacuation of the contents of the bladder and rectum, and disinfection of the genital canal, the colpeurynter was introduced while empty, so that it lay on the posterior wall of the vagina, and the *fundus uteri* was adjusted so that the long axis of the uterus and the axis of the pelvic inlet were coincident. The bag was then injected with water until it was fully distended. The patient was placed in bed in the dorsal decubitus. The instrument was removed at the expiration of twenty-four hours, and the genital canal disinfected. A *bacillus* containing thirty grains of iodoform was placed in the vaginal *cul de sac*, and the colpeurynter, after being cleansed, was reintroduced. Colpeurysis was continued in the manner indicated without interruption until June 9th. Very gradually the sulcus between the pedicle of the tumor and the neck of the uterus deepened, until on the eleventh day the organ was so far reinverted that the fundus was on the same plane with the *os externum*. During this period gentle efforts at taxis were made daily but without any apparent effect. No perceptible progress was made during the succeeding eight days. June 17th a serous fluid tinged with blood began to escape from the vagina, and it was thought the patient was about to menstruate. The colpeurynter was accordingly withdrawn. During the nights of June 18th and 21st the patient suffered severe uterine hemorrhages which threatened to prove immediately fatal. Hot vinegar was used as a vaginal douche, but did not prove so efficient a styptic as a hot saturated solution of alum. Menstruation ceased on

June 23d. On account of the hemorrhages, it was deemed inexpedient to expose the patient to the fatigue consequent upon any attempt to observe the *mucosa* during menstruation. During the subsequent nine days the writer was indisposed, so that the treatment by colpeuryesis was resumed on July 2d. On examination, before replacing the bag, the inversion was found to be as complete and as irreducible as the day on which the treatment began. The uterus was gradually reinverted, as before, until on July 8th the fundus was on the same plane with the *os externum*. From the 8th until the 15th of July no apparent progress was made in reduction. On the evening of July 16th the writer was very much pleased to find the uterus completely reinverted, and the vaginal portion of the cervix occupying its normal position. The sound passed into the uterus to the extent of three and a half inches. The *corpus uteri* was felt on bimanual palpation, in a position of slight retroversion, below the promontory of the sacrum. The patient was not aware of any change in her condition. She said, however, that she had felt a sudden, sharp pain in the hypogastric region some four hours prior to the examination. Owing to the patient's enfeebled condition—due in the main part to anæmia—she was not permitted to leave her bed until July 18th.

The colpeurynter was in the vagina altogether thirty-three days. On three occasions during this period the bodily temperature rose to 102° F., but invariably fell to the normal after irrigation of the vagina and disinfection of the rubber bag. The presence of the colpeurynter in the vagina did not interfere at all with the functions of urination and defæcation. The writer desired to express in words his appreciation of the constant attention devoted to the somewhat tedious plan of treatment by Dr. Louis E. Lawson, late resident physician, Mercy hospital.

Dr. Alex. J. Stone, of St. Paul, kindly repaired the bilateral laceration of the cervix on July 20th. The operation was unusually difficult on account of the extent of the tear and the shortness of the vaginal portion. Dr. Stone's method of operative procedure differs materially from Emmet's, but its description is obviously out of place in the present report. The sutures were removed on August 4th, perfect union having been secured.

The patient, after leaving the hospital, gained rapidly in strength. Menstruation occurred September 26th; the process was painless, lasted four days, and the quantity of blood lost was normal. At the time of writing she has resumed her former occupation.

REMARKS.

The case is of particular interest with reference to: I, anatomy; II, symptoms, and III, treatment.

I, Anatomy.—The uterus was in a state intermediate between the second and third degrees of inversion. In the second degree of inversion—the incomplete inversion of Puzos, Levret, Leroux, Denncé, the third degree or perversion of Crosse—the anatomical limit of inversion has been indicated by Baudelocque as the vaginal insertion around the *cervix uteri*. Under these conditions, according to Veit and Freund, the cervical canal is intact, the uterus is only inverted as far as the internal os, and the uterine globe remains within the vagina. In the third degree, the complete inversion of Puzos, Levret, Leroux, and the utero-vaginal inversion of Denncé, the *corpus uteri* and *cervix uteri* are completely inverted, and the anatomical limit, as indicated by Levret, is the vaginal insertion at the vulvar orifice. Under these conditions the inverted uterus is also prolapsed, and protrudes beyond the plane of the genital fissure.

In the case under consideration the cervical canal was completely inverted on the right side, the cervico-uterine sulcus (Denncé) had disappeared, and the cervico-vaginal sulcus was shallow. On the left side the cervico-uterine and cervico-vaginal sulci were perfectly distinct. In consequence of the complete inversion of the right half of the cervix the long axis of the uterine globe was sensibly deflected to the left of the median line. The vaginal portion of the cervix was short, and lacerated on either side to the vaginal junction. The inverted uterus was perfectly mobile, and no trace of inflammatory infiltration could be detected about the pelvic peritoneum or in the connective tissue. The position of the ovaries, tubes and round ligaments could not be mapped out with any degree of certainty.

II, Symptoms.—The writer thought it was fair to assume that the inversion of the uterus, in the case under discussion, occurred at the time of delivery. The weight of probable evidence is in favor of this assumption. The inversion must have occurred before the third week following labour, because at that time the presence of an intra-vaginal tumor was discovered by the patient. This interval of three weeks was spent quietly in bed in the dorsal decubitus. The conditions for inversion would be at no time during this period so favorable as during or at the completion of the third stage of labour. During this period no cause adequate to the result was in operation. On the other hand, during or at the completion of the third stage of labour, all the causes and conditions known to be necessary to the production of inversion were present, *i.e.*, the enlarged and relaxed corpus, dilated cervix, traction on the cord, possibly, also fundal insertion of the placenta (Hennig) and paralysis of the placental site (Rokitansky). If this assumption be granted, the case demonstrates that inversion of the uterus

may "take place without sufficient symptoms to attract attention or to indicate that anything has gone wrong." Dr. J. C. Reeve has already called attention to this subject, and has sustained the proposition just quoted by the citation of well authenticated cases in his classical essay, "Moot points in Regard to Inversion of the Uterus."

The patient a woman of at least average intelligence, and the midwife, a "qualified" practitioner, *i. e.*, examined and registered by the State Board of Health of Illinois, observed no symptoms sufficient to attract attention or to indicate that anything unusual had happened at the time of delivery. A well known and skillful obstetrician saw the case forty-eight hours after the probable time of the occurrence of the accident, and the absence of symptoms was so marked that the condition escaped his critical observation. Seventy-two hours after the probable time of occurrence of the accident the patient was seen by another thoroughly competent medical man, who also failed to recognize the complication upon his first, or upon any subsequent, visit.

Dr. Reeve's proposition has an important bearing upon the differential diagnosis between inversion of the uterus and sessile polypus, and indicates that no reliable evidence can be obtained from the history of the case.

III, Treatment.—Carl Braun, in 1851, introduced a simple, convenient and safe method of the vaginal tamponade (colpeurysis) by means of a caoutchouc bag (colpeurynter). The reduction of chronic inversion of the uterus by colpeurysis was inaugurated by a communication from Tyler Smith to the Royal Medical and Surgical Society of London, April 13th, 1858. In this communication Tyler Smith reports the reduction of a chronic inverted uterus by taxis in connection with continuous elastic pressure by means of Gariel's air-pessary.

Barrier, of Lyons, in 1852 employed an air-pessary to retain the uterus in position, but with no avowed intention of using continuous elastic pressure to effect reduction, as intimated by Denncé. M. P. Teale, Jr., of Leeds, and West, effected reductions of the inverted uterus in 1859 by Tyler Smith's method. It was reserved for Bockenthal, as remarked by Thomas, to demonstrate in the same year that reduction could be effected by the colpeurynter unaided by taxis.

As a matter of practical import, the colpeurynter used in the case described was a quadrilateral, caoutchouc bag, ten centimeters long, five centimeters wide when collapsed, and possessing a maximum circumference of twenty-one centimeters when distended. It is known in the shops as "No. 5 pear-shaped water-pessary." The selection of a properly shaped and properly sized instrument demands some care. Dr. Byford's treatise is the only American textbook on gynæcology which gives an adequate exposition of colpeuryasis as one of the methods of reduction of chronic inversion of the uterus. This fact may be interpreted as indicating the method is not extensively practiced in the United States, and a survey of American medical literature upon this subject will serve to confirm such an opinion. In the very large majority of cases more heroic measures have been adopted. On the other hand, colpeuryasis has largely replaced all other modes of treatment in Germany. Fritsch says, "Gradually almost all gynæcologists have gone over to Braun's colpeurynter." "The treatment with the colpeurynter is the sovereign method of treatment in cases of inversion of the uterus. Inversions yield to it which have resisted all other methods. The resistance which the cervix opposes may be so great that Muzeaux (four) forceps in-

serted into the portico tear out, and still the uterus remains unmoved. If colpeurysis is now resorted to, earlier or later a successful result is bound to follow, without the application of violence and without danger. It is therefore urgently advised to give up every attempt at forcible reposition of the uterus." He adds the significant sentence, "Colpeurysis cannot be held as without effect, even if the end is not immediately attained, it may be continued with interruptions fourteen days, yes, even three weeks." "The best method of treatment of chronic inversions," says Rheinstaeder, "is the introduction of a colpeurynter, which is gradually distended with water." Schroeder has repeatedly effected the reduction of the chronic inverted uterus after the failure of all efforts at manual reposition.

DISCUSSION.

DR. PHILIP ADOLPHUS: The author of this excellent paper has adopted in the reposition of the uterus of his patient, as efficient a mode of procedure as any hitherto in use. It is also the safest mode of replacing the organ. In the treatment of chronic inversions, success has followed all methods of replacement, whether effected gradually or rapidly. But forcible taxis ought to be the last resource, when gentler and as efficient means are exhausted. It may lead to laceration of the vagina, peritonitis and death. Gradual pressure, sustained or interrupted, solid or elastic to which taxis has been added, has been equally successful, and has been practiced since 1858. It is absolutely safe. In some cases air pessaries or other elastic contrivances have been left in the vagina constantly, or have been replaced at intervals, for a period of three to eighteen days, and *uteri* have been returned by this method, which were inverted

from one to fifteen years. The essential to success in the return of an inverted uterus is patient, gently continued manipulation of *some portion of the uterus*, by the fingers in the vagina with the application of the other hand externally to overcome the constriction of the cervix, and to prevent the forcible elongation of the vagina. A small hand, which observes the course of the pelvic axis, and avoids the promontory of the sacrum, and goes on one side of it, is also an element of success. Old adhesions opposing reduction of the inverted uterus are rarely present. An inflammation of the serous tissue in some portion of the pelvis may, however, be present as a complication, for this is an extremely common affection in all kinds of pelvic disease. Doubtless, in cases in which peritonitis followed manipulations, a chronic or subacute inflammation of the serous tissues was the predisposing cause. However, the most interesting portion of this subject to me is that of diagnosis, *in all tumors lying in the vagina*, which do not pathologically implicate that organ and the vulva. A correct diagnosis in inversion of the uterus is absolutely essential to treatment, and the safety of the patient. The question of differential diagnosis between inversion of the uterus and polypi and fibroids is almost daily presented to the gynæcologist for solution. Not much reliance can be placed on the history in *chronic* inversion, for the diseases present similar symptoms. The size of an inverted uterus of some standing is scarcely larger, and is often smaller than in the natural state. It is desirable to look on the case under examination as one of inversion as long as any doubt exists. The bowels and the bladder should be emptied and the patient examined under ether. It is certainly *not* a case of

inversion, when by bimanual *palpation*, with fingers in the vagina, fingers or hand into the rectum, or sound in the bladder, the *unimpaired roundness* of the uterus presents itself for palpation, either in the normal or retroverted position. In the just mentioned condition, if the sound enters the uterus two and a half inches or more, the uterus merely contains a fibroid or polypus which emerges from the cervix. The diagnosis may be rendered more difficult if no opening in the *cervix uteri* can be found, the cavity having been agglutinated by previous inflammation to the polypus. Here downward traction of the vaginal tumor to the vulva, by a vulsellum, as recommended by Susdorff, and I copy his words, will at once confirm the presence of a polypus. "For the relations of the parts to each other, as they existed in the vagina, will be greatly changed when exposed to view. The lips of the cervix which surrounded the pedicle will have disappeared, having also become inverted, and along with it, probably, the vagina at its junction with the neck." The insinuation of the sound into the uterus will at once confirm the information procured by bimanual palpation. If the same manner of examination discloses the body of the uterus indented or cupped, we have a partial inversion, either with or without a fibroid, a condition which is not as infrequent as is generally supposed. The presence of a tumor in the vagina, the absence of the *fundus uteri* in the abdomen, and the presence in its place of a well defined ring or cup-shaped cavity, unmistakably announces an inversion of the uterus; traction confirms the diagnosis. An incision, not a puncture, along the sides of the tumor, after the patient emerges from the ether, will at once show whether we have to deal with the fundus of the organ or a polypus.

In the one case it will induce pain, in the other it will prove painless. In the former it will relieve the congestion and possibly lead at once to its reposition, or prepare for its successful replacement in the future.

DR. H. P. MERRIMAN: I would like to ask whether, after the uterus had been partially restored so that the fundus was on a level with the lips, and the colpeurynter seemed to do no good for eight days following, taxis would not probably have promptly, almost immediately, accomplished the remaining portion of the work?

DR. H. T. BYFORD: Every method has danger, and there was one danger in this method which should be mentioned, that is the danger of sepsis or resorption of decomposing secretions. That there was danger even in this admirably managed case was evidenced by the rise in temperature, followed by the disappearance or decline in temperature on cleansing the bag and vagina. I have seen the immediate decline of fever by washing out the uterus when enlarged and filled with decomposing matter. I object to the introduction of the hand into the rectum to diagnose a case of inversion, as suggested by Dr. Adolphus. I consider it a dangerous practice because it does a violence to the part which sometimes has done an irreparable injury, and is unnecessary.

DR. W. H. BYFORD: With reference to the subject of inversion, and more particularly the diagnosis, there are two points which I think are very important, in addition to those mentioned by Dr. Jaggard. In cases of polypus attached to the neck of the uterus and filling up a good part of the vagina, I think the uterus is always enlarged and may be palpated above the pubes. Another point in the diagnosis is the difference in the sensation imparted to the examining finger. A polypus feels as if covered by a shining, smooth membrane,

unless it is decomposed, while the surface of the uterus gives the sensation of pushing the finger into plush or velvet. I give these two points of diagnosis as the results of my own observation, and as being usually present. With reference to the mode of reducing inversion, I will give some of my own experiences during the last thirty years. In the year of 1859-60, I had a patient sent to me from Lafayette, Ind., with a chronic inversion of the uterus, which I attempted to reduce. I had just read a long treatise on the subject by Dr. White, of Buffalo, and Drs. Thomas and Emmet were then beginning to talk and write about these things, and I went at it with considerable enthusiasm. I got up the cup that Dr. Jaggard mentioned, and I also got a large rectal bougie, an instrument which Dr. White had praised very highly in his first operations, and I made the first attempt, lasting about an hour and three-quarters, and when I got through I was worse off than the patient, although she was pretty badly used up. I waited two or three weeks and made another attempt, but after a protracted effort I found my finger passing through the *fundus uteri*. I had been as cautious about the force as I could be, making the effort as gradually as possible, but I perforated the fundus. I fully expected that the damage done would be fatal to the patient, but it did not produce any bad effects whatever, and she entirely recovered in two weeks and went home. Two years later she came to see me again, but did not wish to have another effort made to have the uterus reduced. Two years later the uterus was found in its normal position. I saw the patient and her physician, and I am certain that nothing had been done to reduce it. I tried two other cases, and made the same efforts, but without success. I then concluded that it was hardly worth while to make trials of that nature again, and in the next case I tried the colpeu-

rysis treatment. For some days I was nonplused, from want of experience, as to the mode of placing the instrument in the vagina. I used the quadrilateral colpeurynter, and after I placed it in the vagina I found the next day that I had gotten it under the uterus lengthwise, that the fundus was directed toward the vulva, and the neck directly backwards; I was merely compressing the body of the uterus against the *symphysis pubis*. I reflected considerably before I could get the right idea as to the manner of placing the instrument in the vagina. Finally I pushed back the fundus until the axis of the uterus corresponded to the axis of the superior strait, and then introduced the colpeurynter as has been described by Dr. Jaggard, and applied the force. The next day when I came back I found there had been some impression produced, and I went on with the use of it, taking it out every day and replacing it in this manner until in seven and a half days the inversion was reduced. The patient was a poor woman, and it was necessary for her to take care of her child. She did so, attended to it in every way and also cooked three meals a day for her husband. She was on her feet nearly the whole day time, and yet the instrument acted as well as if she had been lying in bed. Three out of the five cases I have operated on have been as painless as this. I should judge that a young primipara would probably suffer more from the use of the colpeurynter than one who had had children. I have now reduced five cases of inversion by the colpeurynter, and have not failed in any case since I commenced using the instrument. The first case of inversion I had I amputated the uterus. And in considering the matter since I doubt if any other treatment could have been adopted which would have been effectual. The uterus and vagina were both inverted, the whole vaginal canal was entirely outside of the body and the

uterus hung down from it, both making a tumor nine inches long. The uterus was very much enlarged in consequence of its being dependent for so long a time. I was in consultation with two German physicians of this city, and they suggested, as the patient was living a miserable life and would die before long, we should cut it off. After half an hour's use of the ecraseur it was removed. We amputated a little below the center of the cervix. There was no bleeding, nothing to give rise to uneasiness. We pushed the vagina back again, put the parts in place, and the patient recovered in the course of a month. Having spoken of one spontaneous cure, I will tell you of a patient that I attended in Mercy Hospital in 1864-5 whose uterus was much in the same way as the one that I first operated on, coming out entirely beyond the vulva and dragging down the vagina very low, so that there was simply a circular sulcus between the labia and the vaginal wall. I tried to restore it by manipulation, and failed; I proposed to amputate it, but the patient would not consent. Meantime one of the Internes had fallen in love with her, and they went off to Missouri and got married. About six years afterwards the doctor came back, and told me that he had a son and his name was Byford. Upon inquiry I found that the child had been borne by this woman. One case of inversion occurred in my own practice. I attended the patient during confinement, and so far as I know she had no difficulties whatever for seven or eight days. By that time I was on my road to California, and I think Dr. Roler looked after her for some little time after I was gone. In two months I returned home and was informed that she had inversion of the uterus, which I did not believe. I went to see her, and found that she was suffering from complete inversion. That was one of the cases I cured by colpeuryesis. When the inversion occurred I do not know. I am

certain that I made two or three examinations, as I always did at that time, always one the second day after confinement. I did not notice anything of the kind, and yet it might have been commenced and finished afterwards. I saw a case with Dr. Henry T. Byford, which had been attended by a midwife, in which the inversion occurred so that the fundus could be touched through the mouth of the uterus, and it remained in that way two or three weeks. The patient was bleeding, but I believed the contraction of the mouth of the uterus was sufficient to prevent it coming through. I advised ergot, and in a few days the uterus was in its proper position.

DR. EDWARD WARREN SAWYER: One point is the persistence that one can observe in applying the colpeuryesis, without a fatal result following. The interesting case that Dr. Byford has spoken of last also shows the possibility of the obstetrician seeing nothing in the first few days of the puerperal state to suggest that anything has gone wrong. Cases are recorded in which the inversion has taken place without the obstetrician knowing it. In the fatal case that occurred in my practice the symptoms were so profound that it was impossible to overlook it, and I think the diagnosis of recent puerperal inversion of the uterus is much easier than of chronic inversion. In the case which occurred in my practice, the rim of the crater marking the upper border of the uterus, which I palpated through the abdomen, was fully as large as a common bowl, and its edges were very sharply defined. In addition to that the fundus could be distinctly felt through the os uteri. One feature of the paper which is by no means the least to be commended is the very admirable and graphic way in which the case was presented.

DR. H. P. NEWMAN: My experience has been limited,

but I remember a single case, in which I assisted a surgeon of this city in attempting the reduction of a chronic inversion of the uterus. It was in a hospital, where they had every facility for the operation and it could be proceeded with leisurely. Some two hours were taken up with the various devices for reducing the inverted fundus, all of which were of no avail. There was a complete inversion of the uterus but not of the vagina, and I think previous to the attempt at reduction a fibroid was removed from the fundus of the uterus. No further myomatous condition was discovered at the time, but the difficulty was exceedingly great in this case and nothing whatever was accomplished. I have no knowledge of the subsequent condition of the patient, whether she suffered materially from this, or whether she was afterwards successfully operated on, or the uterus amputated.

THE PRESIDENT asked Dr. Jaggard what means he used to disinfect the colpeurynter.

DR. JAGGARD replied that he washed it thoroughly with soap and warm water, afterwards disinfecting it with a five per centum solution of carbolic acid. The vagina was irrigated with a two per centum solution of carbolic acid, and a bacillus of iodoform introduced.

DR. ADOLPHUS, in reply to Dr. Henry T. Byford: In complicated cases of tumor in the abdomen or pelvis I would not do without the introduction of the hand into the rectum. I am not alluding to Simon's method, putting the hand in as far as the elbow, but I am talking of the hand. And when the patient is under ether, it can be done easily. It depends upon the size of the hand, perhaps, but with a hand well greased and introduced slowly it does a great deal of good

and gives an immense deal of information which we cannot get in any other way. I examine every case, without exception, *per rectum*, with the finger.

THE PRESIDENT asked Dr. W. H. Byford if he regarded it good practice, after all ordinary means had been exhausted and the uterus was still inverted, to amputate?

DR. W. H. BYFORD: When all other measures have failed to effect the object and the patient is suffering so much as to make relief imperative, yes.

THE PRESIDENT: I saw Prof. Chiari, in Florence, operate upon a case of that sort. He placed a silver wire around the uterus and left it in position and the parts gradually sloughed away.

DR. W. H. BYFORD thought that mode of operating upon the uterus bad, that it would have been better to have used the wire ecraseur to stop circulation, and cut it off. But a sloughing mass in contact with the parts would be likely to produce pyaemia.

W. W. JAGGARD, M.D.

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BOOK REVIEWS.

THE CURABILITY OF INSANITY: A SERIES OF STUDIES. *By* PLINY EARLE, A.M., M.D. *Octavo, pp. 227. Philadelphia: J. B. LIPPINCOTT COMPANY. 1886. Chicago: A. C. McCLURG & COMPANY.*

Most of those especially engaged in the care of the insane are already familiar with the views of Dr. Earle, as they have appeared in the reports of the Northampton Lunatic Hospital for the past ten years. They will be gratified to learn that this series of studies, heretofore somewhat inaccessible, is now gathered into one volume.

Those less acquainted with asylum statistics will find in it a fair estimate of the recoveries among the insane committed to asylums. The author was led to make these studies by certain erroneous methods of tabulating recoveries in this and foreign countries. The per-centage of recoveries was formerly, and is yet in many states, based on the relation which the number of those discharged as cured bears to the whole number of admissions. Thus it came that cases of recurrent and even circular insanity furnished several "recoveries" each year. When a number of years are taken together the error is still further augmented, and we are led to regard insanity as a much more curable condition than the facts warrant.

The first paper of Dr. Earle appeared in 1876, in which he took the ground that the true measure of the curability of insanity was the proportion existing between those who recovered and the number of *individuals* treated.

The truth of this method is attested by the fact that during the past ten years it has remained substantially unchallenged, and has in many respects modified the care and provision for the insane in this and other countries.

H. N. M.

OUR PENAL MACHINERY AND ITS VICTIMS. *By* JOHN P. ALTGELD. *New and Revised Edition. Octavo, pp. 151. Chicago: A. C. McCLURG & COMPANY.*

Too often those who approach the subject of crime, and the care of criminals, whether from the humanitarian or sociological standpoint, are termed visionaries or doctrinaires, their views are scouted, and some lawyer whose legal acumen does not extend beyond caring what the law is, providing only that it is fixed, pronounces them impractical. To all thinking minds this indictment of our penal machinery must come with added force from the pen of an accomplished jurist, now occupying a seat on the bench.

We can mention but briefly a few of the many facts gathered into this little volume, which might easily have been expanded to greater bulk.

After a brief description of the size and cost of our penal machinery, he is compelled to admit that "it does not deter the young offender, and it seems not to reform nor restrain the old offender. This being so, one is naturally led to ask whether there is not something wrong with the system; whether it is not based on a mistaken principle; whether it is not a great mill which, somehow or other, supplies its own grist; a maelstrom which draws from the outside and then keeps its victims moving in a circle until swallowed in the vortex."

The broad principle of the law is laid down that society

never claimed the right of punishment for violation of the moral law, but only for infraction of its own laws. Therefore, anything which is done that is not necessary for the protection of society is unwarranted and wrong. The present system is characterized as "formal, iron-bound and superficial." Not content with pointing out defects, some remedies are suggested. The abandonment of the present idea of *punishment* and the substitution of protection of society as the sole object to be attained in dealing with offenders. The subject of "indeterminate sentence" is very fully discussed.

The work is broad and philosophical, and will, we trust, do much to further the greatly-needed reform in the administration of criminal law. The numbering of so good a lawyer among the "doctrinaires" presages much for the ultimate triumph of a scientific criminal jurisprudence. H. N. M.

A SYSTEM OF PRACTICAL MEDICINE. *By American Authors. Edited by WILLIAM PEPPER, M.D., LL.D., and LOUIS STARR, M.D. Volume V. DISEASES OF THE NERVOUS SYSTEM. Large octavo, pp. 1326. Philadelphia: LEA BROTHERS & COMPANY, 1886. Chicago: A. C. MCCLURG & COMPANY.*

This large and handsome volume forms a fitting conclusion to the greatest undertaking of its kind ever attempted in this country. The editor is to be congratulated on the success of an enterprise involving in its preparation such a length of time and the coöperation of so many competent writers. One unacquainted with literary work of this kind can form little conception of the extent of the task, and of the energy and talent required to push it to a successful completion.

This volume comprises forty-four articles by twenty-three authors, among whom we find Folsom, Hamilton, Jacobi, Lyman, Mills, Mitchell, Seguin, Spitka and others quite as eminent in the field of neurology. It would be invidious to single out any of the articles for special commendation or criticism. To adequately review each would greatly exceed the space at the command of this journal. The work is a collection of monographs by men specially qualified to deal with the subject assigned them. The value of the book as a whole depends on the value of each essay. This method of producing a book has some positive advantages, in that much talent can be brought to bear on each subject. So far as the essays themselves are concerned, they would be just as valuable published as separate communications in current periodicals. Then the effect of reading a work of this kind is to produce an impression of distinctness which the subject does not naturally possess. This is to a certain extent overcome by the admirable introductory articles by Dr. Seguin on the "General Semeiology of Diseases of the Nervous System; Data of Diagnosis" and "The Localization of Lesions of the Nervous System."

The work of the editor in defining the extent of each subject, as well as in classifying the various disorders, has been well done, though it is here that one might find fault, if anywhere. For example, the "Disorders of Speech" are considered in seven pages, while "Catalepsy" has twenty-five assigned to it. The relative importance and frequency of the disorders scarcely merit this difference. The work, as a whole, is a contribution to the literature of nervous diseases of which the American neurologists may well be proud.

REPORTS AND PAMPHLETS RECEIVED.

Annual Report of the Commissioner of Pensions for the Year Ending June 30, 1886.

Eighth Annual Report of the State Board of Health of Illinois.

Transactions of the Eighteenth Annual Session of the Texas State Medical Association.

Transactions of the American Otological Society, Nineteenth Annual Meeting.

Transactions of the Medical Association of the State of Missouri, Twenty-ninth Annual Session.

Transactions of the State Medical Society of Wisconsin, 1886.

Transactions of the Illinois State Medical Society, 1886.

Inter-State Notification: Its Principles as Demonstrated in the History of Yellow Fever at Biloxi, Mississippi.

T. D. Crothers, M.D. Certain Hereditary and Psychical Phenomena in Inebriety.

L. Webster Fox, M.D., and George M. Gould, A.B. The Human Color-Sense Considered as the Organic Response to Natural Stimuli.

Charles W. Dulles, M.D. The Mechanism of Indirect Fractures of the Skull.

H. M. Bannister, M.D. On Consciousness in Epilepsy.

H. M. Bannister, M.D. On the Classification of Insanity in Asylums or Hospitals for the Insane.

Robert Battey, M.D. Antisepsis in Ovariectomy and Battey's Operation.

Frank Billings, M.D. Notes on Hospital Practice in Vienna.

Robert J. Lee, M.D., F.R.C.P. Three Lectures delivered at the Hospital for Sick Children, Great Ormond Street. I and II. On the Transmission of Syphilis. III. On the Earliest Record of Whooping-cough.

W. H. Daly, M.D. I. Laryngology and Its Cognate Branches in America. II. The Simplest and Most Efficient Treatment of Diphtheria.

Joseph Edcill Winters, M.D. The Relative Influences of Maternal and Wet-Nursing on Mother and Child.

Joseph Holt, M.D. Relation of Quarantine to Shipping Interests.

Oscar J. Coskery, M.D. Three Cases of Fracture of the Skull.

C. H. Hughes, M.D. Meconeuropathia.

B. Bernard Browne, M.D. The Curette as a Diagnostic and Therapeutic Agent in Gynecology and Obstetrics.

Dr. J. Pirnat. Diphtheria and Its Treatment.

EXTRACTS.

INTERNATIONAL MEDICAL CONGRESS.

We are glad to know that the prospects for the next meeting of the International Medical Congress which is to be held in Washington next summer, are at present more bright than appeared possible at one time. The gross injustice done to the original committee by the actions of the American Medical Association at the New Orleans meeting of 1885 still exists in full force, and, we suppose, must remain so. The consequence is that the majority of the brightest lights of the American profession may take no part in the congress. This fact will cause many on the continent and in Great Britain to remain at home; and has also had a serious effect on a large portion of the masses of the profession in the United States and Canada.

Notwithstanding all these drawbacks it must be confessed that the new enlarged executive committee has done its work wonderfully well, and has thereby made great strides in gaining the confidence of the profession throughout the world. The names of many distinguished men, especially from Great Britain, France and Germany, have consented to act as officers with various sections. The venerable President-elect, Dr. Davis, of Chicago, is highly and deservedly respected by all sections of the profession; and was very well received at the recent meeting of the British Medical Association, where, without doubt, he gained many friends for the coming congress.

We sincerely hope that all parties will now unite in their endeavors to make the meeting an unqualified success. We would like to see the leaders of the profession in the United States act as a unit on this question. Let the present committee manage the executive business of the congress as its members think best—and they will probably do it well; at the same time let the ablest men of the United States unite in their endeavors to make the scientific proceedings a grand, indisputable success. In doing so they, and not the successful manipulators of the New Orleans vote, will carry off the honors; but they will, apart from any such selfish considerations, be acting as loyal and patriotic citizens and physicians in showing to the world what wonderful progress has been made in things medical by the American Medical Profession, and also in exhibiting those social qualities which make the practical and generous citizens of the United States the most charming and agreeable hosts in the world.

—*Canadian Practitioner.*

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ORIGINAL COMMUNICATIONS.

METRITIS.

By EDWARD B. WESTON, M.D.

[Candidate's Thesis, Read before the Chicago Gynecological Society, December 17th, 1886.]

In studying the history and literature of any medical subject we are forcibly reminded of the statement made by Aristotle two thousand years ago, that "probably all art and all wisdom have often been already fully explored and again quite forgotten."

In selecting "Metritis" for my thesis, it is not for the purpose of bringing to your attention "something fully explored and quite forgotten," or something new, but to ask your indulgence while the subject is briefly reviewed.

It is a subject as old as medicine, and often learnedly treated; yet concerning which there is still far from unanimity of opinion.

Whether metritis is the best name for the disease depends upon its pathology, which we do not attempt to indicate by its use. We use it for convenience. Many gynecologists have attempted to formulate their opinion of its pathology by the

use of a distinguishing name ; but as yet none has been proposed which is satisfactory to all.

Metritis—literally an inflammation of the womb—would, if strictly considered, denote an inflammation of all parts of the organ, peritoneal, muscular and mucous.

If it were so used it would come nearer to indicating its pathology. But the term as employed indicates a pathological condition—acute or chronic—of the parenchyma of the uterus. Some have considered a cervical and corporeal metritis ; but, as the cases in which one part alone is involved are very rare, we shall ignore this subdivision, without denying that one part may be affected without the other, and stating that the neck or body is primarily and chiefly involved, as the r

Acute Metritis—puerperal and non-puerperal. That uncomplicated acute non-puerperal metritis is a rare disease, all admit. Thomas, in an early edition of his “ Diseases of Women,” says he had observed it but twice. Others of broad observation have never seen a case. Emmet says : “ There is no proof that the uterine tissue adjacent to the lining membrane is ever involved, except in the puerperal state.” Goodell writes : “ As acute metritis, apart from child-birth, rarely exists, excepting as an advanced state of acute endometritis, I shall make no further allusion to it than the present one.” Byford does not consider it so rare as most authors do ; and a great majority of the profession believe that the disease is occasionally met with.

When the parenchyma has become inflamed the mucous membrane rarely altogether escapes. Indeed, when we consider the causes of the disease this could hardly be possible, and in cases where there is no doubt as to the propriety of designating them metritis, there was probably first a mild endometritis. When the disease arises from an operation on, or

injury to, some neighboring part, as the vagina or bladder, we can conceive of its being pure and uncomplicated, the *cause* being conveyed by blood or lymph vessels directly to the part, and that if the disease is mild and of short duration other structures may escape. But if the disease has arisen from an intra-uterine or vaginal pessary, the use of the sound or any operation on the organ itself, the disease probably starts in the mucous membrane, and the metritis, though greatly overshadowing the endometritis, is a secondary disease. At any rate a wound has been made in the mucous membrane through which the *cause* has at least passed. Indeed, it is now denied that a true inflammation of the connective tissue of the uterus is possible, except where a wound exists, and also a septic material, to gain entrance through the wound. An operation may be performed and primary union occur without metritis developing; and, again, the septic material may be present and an intact membrane bar its entrance. If the wound and poison both exist, a metritis will be developed, and the disease probably progress until neighboring structures are involved and the case ceases to be a simple uncomplicated one. Sudden suppression of the menses, intemperate coitus, tumors in or near the uterus are also among the causes.

After child-birth the uterus becomes inflamed much more frequently. If the accoucheur has been too meddlesome, made too frequent and rough examinations, used instruments unskillfully, removed the placenta violently or but partially, the vagina cervix internal surface of the uterus may have been seriously wounded, and the channel formed through which the readily decomposing discharges may gain entrance to the organ. If proper antiseptic precautions were not observed both during labour and after delivery we shall probably have metritis.

In acute non-puerperal metritis the uterus is enlarged, chiefly antero-posteriorly; it may be even to its size in the second or third month in pregnancy. "On section the muscular wall is thickened, but soft and pulpy, and yields on compression a yellowish-red exudation. The mucous membrane is thickened and vascular, but the cavity of the uterus is not altered in size. Microscopically the muscular bundles are infiltrated with pus corpuscles." (Hart and Barbour).

The symptoms are not pathognomonic. There is fever, usually proportionate to the amount of local disease, and in most cases there are chills at the beginning. Severe pain is experienced which often extends down the thighs, and to the bladder and rectum, the evacuation of which greatly increases the suffering. There may be diarrhœa, nausea and vomiting. On examination, we find tenderness over the hypogastric region. On introducing the finger into the vagina it will be found at first hot and dry, the uterus usually low, swollen, very sensitive, but movable unless old adhesions exist. Rectal and bi-manual examination, if it can be borne, will aid us in our diagnosis. After the disease has lasted a few days the fever and pain gradually decrease, and a leucorrhœal discharge shows that there is a complicating endometritis.

Few would feel themselves competent to say that they had before them a pure case of metritis, without the slightest complication. However, if the uterus is movable, and no peri-uterine deposit be found, and if the pain and tenderness do not seem to extend from the uterus, we may conclude that it is chiefly affected. The disease may terminate in resolution, or in the formation of an abscess, which may burst into the uterus itself, the bladder, the vagina, the intestines or even through the abdominal walls. But the most common

termination is in chronic metritis. Some, however deny that it ever so ends.

The prognosis must be guarded, as the outcome will depend on which course the disease pursues.

Treatment.—We must obtain for the patient as far as possible, perfect rest. Pain must be relieved, and in most cases it will be necessary to at once administer opium in some form. Milder remedies usually fail and need not be experimented with. Morphine, hypodermically, is usually best, as medicine taken into the stomach is very apt to nauseate, and anodyne rectal injections for a time increase the pain by their pressure, even though it be slight. A rectal suppository is preferable to an injection. It is well if the rectum can be kept empty. Some advise cathartics: others, enemata. The pain caused by the pressure of the latter on the uterus leads me to prefer a suitable cathartic. Vaginal injections of warm water, containing opium, given from a fountain syringe, gently and with little force, may be used daily or oftener. The openings in the syringe-pipe should all open or point backward. The patient being on her back the water will sufficiently distend the vagina and come in contact with every part of it, and the danger of forcing water into the uterus unintentionally be reduced to the minimum. It is often advised to use a pipe without a terminal orifice. But there is more danger from the lateral openings, if the uterus is in its normal position, or anteverted or strongly retroverted. Poultices of flaxseed meal, made much lighter than they usually are, and covered with oiled silk, can be borne in most cases.

If they cannot, two thicknesses of flannel, wrung out of hot water, and covered with waterproof material, may be used. If the case is severe, blood may be drawn, by scarifying the

uterus, or by leeches applied to the perineum or abdomen. This should not be overdone, for in nothing is it more important to observe the golden mean. Ice cold applications to the abdomen have been recommended. In a case caused by a portion of retained placenta, or where it is feared the uterus may contain septic matter, it must be at once rendered aseptic by injections of carbolic acid or other proper agent. Little need be said as to the purely medicinal treatment. When there is much fever, aconite, quinine, antipyrine may be given. In cases occurring in feeble women, especially after childbirth, alcoholic stimulants may need to be used.

Chronic Metritis.—Fritsch says that "all conditions and circumstances leading to repeated hyperæmia of the non-gravid uterus, or preventing the normal puerperal involution of the organ, are of etiological importance in chronic metritis." Goodell says, "By chronic metritis is meant such tissue changes in the substance or parenchyma of the womb as are brought about by a previous inflammation, or from persistent hyperæmia." Thomas speaks of the condition as an inflammation. Hart and Barbour state that, "From a pathological point of view the term metritis is incorrect, because there never has been demonstrated a chronic inflammation of the muscular fiber of the uterus." Emmet writes that, "We look in vain after death for any evidence of metritis or endometritis, or for ulceration of the cervix as it is termed, for neither of the conditions so-called is inflammatory." "When doctors disagree, who shall decide?" Doctors, evidently; but not we.

Included in the term chronic metritis are numerous pathological conditions. If we could approach the subject *de novo*, and have the pathological anatomy demonstrated, we could soon agree upon a name expressive of its pathology, and

upon the proper treatment of the disease. But we do not know its pathology, absolutely. Nor have we a single disease, or a single organ, involved. For while in that condition which we call metritis the parenchyma is most markedly at fault, we always have pathological states in contiguous tissues and organs. Fritsch says, "The only facts positively demonstrated are the enlargement of the uterus, the dilatation of the vessels, particularly the larger, and the frequently complicating peri, and endo-metritis."

If we examine a case in its early stage we find the uterus reddened, soft, sensitive and infiltrated with blood, serum and fibrin, and consequently enlarged; and at times altered in shape. Later on the organ increases still further in size from a proliferation of connective tissue. As the growth continues the blood vessels are obliterated or lessened in size, by the pressure, and the blood supply is diminished. The organ then becomes anæmic, indurated, and diminishes in size; but rarely if ever reaches normal dimensions.

The most common cause of chronic metritis is delayed involution of the puerperal uterus. The change of muscular tissue into adipose, and the absorption of the latter, does not proceed as rapidly as it should.

The organ is hyperæmic, leading to connective-tissue growth, which remains; while the muscular tissue but slowly reaches its normal amount. The circulation being interfered with, the organ, from having been too well nourished, becomes starved. Abortions are oftener followed by metritis than are labours at term, for now less prudence is observed, and the uterus is not stimulated to contraction by the nursing of the child. A piece of retained placenta, a blood-clot,

a peri-uterine inflammation may be an irritation which causes an hyperæmia and a following metritis.

In the present condition of the uterus pregnancy may readily take place, to be again followed by abortion or miscarriage, and their attendant evils. A lacerated cervix is a frequent source of metritis. Here we cannot resist using Emmet's language: "Laceration of the cervix becomes a most frequent cause of uterine disease, arresting involution through the irritation established by the separation of the flaps. Hypertrophy of the uterus is thus kept up by this source of irritation, and an intractable form of erosion appears, with an increased menstrual flow, and an exhausting leucorrhœa in the intervals. We find prolapse of the vaginal wall taking place when the proper support is wanting at the outlet: the uterus then becomes retroverted, and, in consequence of the obstruction to the circulation from its mal-position, it increases still more in size." Again he says, "I would state that, for many years past, I have met with few or no cases of sub-involution which were not due to laceration of the cervix."

If the patient get up too soon after confinement, and what is "too soon" for one may not be for another, the yet large uterus assumes a malposition, interferes with the circulation, and a formative congestion results. Imprudences at the menstrual period, which increase or prolong the normal congestion, displacements, tumors, excessive sexual excitement, diseases of the liver or heart, or anything which interferes with the pelvic circulation, or determines too great a uterine blood-supply, may be causes of metritis.

The disease is usually insidious in its development, and the patient can hardly tell when she first considered herself sick.

She has, perhaps, never felt well since some confinement. Her back is weak or aching. Pain extends down the lower limbs, and they seem to have lost much of their strength. There is a sense of pressure and weight in the pelvis, and she thinks she has "falling of the womb." And she is right. Her general health fails, a uterine headache distresses her, her appetite is variable, her bowels usually constipated, her circulation bad. At first she may repeatedly become pregnant, and abort, and later become sterile. An endometritis gives her a leucorrhœa, the character of which varies with the severity of the disease, and whether the neck or body is chiefly involved.

Physical examination of a patient with metritis involving the whole organ, which is unchanged by flexions or misplacements of any kind, shows the uterus uniformly enlarged, but of quite normal shape, but differing from an enlargement due to pregnancy, inasmuch as the latter has an antero-posterior thickening, which one, with an uneducated finger, or, on careless examination, is apt to diagnose ante flexion. As we are apt to have flexion, version and prolapse in varying degrees, neighboring inflammatory deposits and tumors, the uterus will be found in all shapes, and an accurate diagnosis is often made with difficulty. The differential diagnosis we pass, having incidentally referred to the conditions with which metritis is most likely to be confounded.

The prognosis is unfavorable, that is, we are rarely able to restore the organ to its normal condition. If the case is seen early, if there are no serious complications, and if the patient be an obedient one, the result of treatment may be so favorable as to be considered a cure. But usually, when the patient comes to us, the concurrent troubles are so serious, the structural alterations so great, that we can only hope to relieve. Yet, even then, it is in many cases possible to so relieve that

the patient considers herself well. Many cases resist all treatment. Again the patient disobeys the most judicious advice, and relapses and exacerbations occur, which are discouraging to all. The great length of time required to effect a cure, or even an amelioration, taxes the patient's confidence as to the final outcome to the utmost, and very often she drops out of sight, to live on a nervous, irritable invalid, shattered in body and possibly in mind, whose only hope is to be relieved by nature, when the menopause is reached, and the uterus undergoes senile atrophy.

Hart and Barbour, in their "Manual of Gynæcology," say that "chronic metritis is the most important of all the diseases of women." Thomas says, in his treatment of inflammation of the neck of the uterus, that it "may be regarded as the most important subject in a work on diseases of women." Of course, it is not to be inferred that a metritic womb is more important or serious than a carcinomatous one, or than an ovarian tumor, but that the sum total of evil resulting from the former is greater than from any other one of the diseases of women. Hence the great importance of the treatment of these cases. As already seen, they are seldom uncomplicated.

So we have more than one diseased structure to consider in applying our remedial measures, and the treatment of each case must vary as its pathology varies. Concerning the general treatment there is but little difference of opinion: regarding the local there is the greatest variance. Some, notably among them Dr. Emmet, would trust very largely to general treatment. He would watch the pelvic circulation, correct malpositions of the organ, and look after general nutrition; all of which is certainly of the utmost importance.

Emmet writes: "As long as we continue to treat the recognized pathological changes in the uterus as the primary condition, it will seem proper to apply agents directly, or as nearly so as possible, to the parts involved. If, however, we appreciate the fact that some inflammatory change in the pelvic tissues, outside the uterus, is existing, or has existed, in almost every instance of so-called uterine disease in the non-puerperal state, we shall not attempt to treat the effect by agents introduced into the cavity of the uterus, without being prepared for recurrent attacks of cellulitis, excited by our mode of practice, and not due to some accidental cause."

Again: "Inflammation of the lining membrane of the uterine canal does exist under exceptional circumstances as a distinct condition, but it is rare. In practice, it is believed, we chiefly find the congestion and supersecretion as an effect, of little consequence in itself until it has been aggravated by misapplied local treatment." He also says: "When an erosion has been healed by caustic applications, the health of the woman improves rapidly, since, for a time, a great leak has been stopped, by which she was constantly pouring out her life-blood in the form of leucorrhœal discharge. But, as the primary cause is not removed, the erosion must return again and again, until at length, if the treatment is continued, every mucous follicle will have been destroyed, and no further discharge can take place; but the hypertrophy of the uterus and the abnormal condition of the pelvic circulation will remain. If the application is strong enough to produce a slough, then, of course, the mucous follicles will be destroyed; but even if milder means, as the use of the nitrate of silver, are persevered in long enough to heal the surface, the damage will be quite as great, since the tissues will have

been rendered sufficiently dense to cause atrophy of these follicles, and, after either mode of treatment, the tissues become essentially cicatricial in character." "Yet conscientious men of our day, after the use of the cautery or caustics, will leave a surface on the vagina or cervix to heal by granulation, and will deny that the surface thus formed is cicatricial or that it ever contracts; and I have no reason to doubt that they think so, but I do impugn the accuracy of their observation, and the wisdom of their measures."

On the other hand, the great body of gynecologists believe in the importance of local treatment, of course, according to Emmet, because they know no better. Goodell well represents this class. He writes that "while constitutional remedies are not neglected, the chief treatment should be a local one." In speaking of caustic applications, he says of nitric acid, "I am very partial to this escharotic, nor have I found that its use is followed by symptoms more urgent than those produced by the milder caustics. It has been urged that nitric acid will so far modify or injure the endometrium as to prevent conception. To this I can reply that I have twice by its use cured sterility, and that I have repeatedly seen pregnancy occur in women treated with it." Even if, after the use of so powerful an agent as nitric acid, or the repeated use of the less potent silver nitrate, the mucous membrane does become, or is changed into, cicatricial tissue, if the diseased condition for which it is used is essentially cured, and the membrane is in so normal a condition as to be compatible with pregnancy, the probability is that the profession will continue to follow these barbaric methods. And even if, instead of sometimes curing sterility they so affected the parts that they always caused it, they would continue to be used, if they transformed the patient from a sufferer and a cripple to a comparatively well woman.

And it is even possible that it would be a better way of causing sterility than by removing the ovaries, which it has been proposed to do for the disease under consideration.

As to the greater importance of general or local treatment, no conclusion can be reached. Each is supplemental to the other. It is evident that the general treatment is more often neglected. It is also true that in young and unmarried patients it should be first faithfully tried.

We find we have two classes of patients to deal with ; to one of which we have to apply the curb, and to the other the spurs. In one class we find those naturally ambitious and reluctant to acknowledge they are half as ill as they are ; and also those whose lots have fallen in harder places, and who are compelled to work, sick or well, as long as they can stand. In the other class we have those who naturally have less energy, and who readily yield when the struggle comes. Here we find many of the wealthy, and those of whom it is often uncharitably said, "they love to be sick." The advice, and much of the general treatment, which would be proper for one class would be ruinous to the other.

All measures calculated to improve the whole system should be adopted, as tending to improve the uterus as a part of the whole. A change of residence for a time, giving a change of scene and air, and a rest to mind and body, is of the greatest value. The diet, bathing and clothing must receive our attention, and the intestines be thoroughly unloaded and kept in a soluble condition. Exercise and rest must be judiciously combined. Suitable tonics, foremost among them iron, will be needed, and ergot will often help us wonderfully. Alterative medicines sometimes seem of value. All measures and medicines tending to regulate the pelvic and general circulation must be carefully attended to.

In our local treatment we must constantly keep in mind the various and varying conditions our patients present, and as one or the other predominates, and we change our treatment accordingly, so will our success be.

We suppose we have a patient with a chronic metritis involving the whole organ, and accompanied as usual by an endometritis.

We shall probably begin our local treatment by ordering a hot water vaginal douch, taken once or twice a day. One or two gallons of water to be taken from a fountain syringe, and from twenty to thirty minutes to be consumed in taking it. In ordering these injections it must not be assumed that the patient knows anything about them, but minute directions for their use must be given. About once in three days, we shall make an application to the entire uterine cavity, of iodized chloral-phenol, or other mild caustic or astringent. If the uterine canal is not sufficiently open to permit us to readily make the application, it must be dilated, preferably with a uterine dilator. A glycerine tampon may now be introduced into the vagina and allowed to remain from twelve to twenty-four hours. If thought best it may be medicated, but its chief use is of course to deplete. It may be made of absorbent cotton, oakum or antiseptic wool. If there is a misplacement of the uterus an attempt may be made to use the tampon for a pessary. If this cannot be done the uterus must be kept in place by a proper pessary, if such can be tolerated. If there are peri-uterine inflammations, thickenings or adhesions, the vagina and abdomen may be painted with iodine.

Although pregnancy so frequently results in abortion, sometimes it is a means of an essential cure. If the patient,

ANEURISM, COMPILED FOR THE ROCK RIVER ALL DOUBTFUL

So far as possible each Reporter is credited with his own series

NAME OF VESSEL.	Aorta.	Abdominal Aorta.	Thoracic Aorta.	Aorta-Intra- pericardium.	Ascending Aorta.	Ascending and Transverse.	Transverse and Part of Arch.	Transverse and Descending Arch.	Descending Arch.	Thoracic Aorta Below Arch.	Totals of Aorta.	Totals of Ab- dominal Aorta.	Totals of Thoracic Aorta	Anterior Palatine.	Axillary.	Brachial.	Carotid.	Internal Carotid.
REPORTER																		
Barwell.....															11			
Ciniselli.....	37										37							
Crisp.....		59	8		98		48			21		59	175		18	1	25	
Ehrmann.....																	213	
Fischer.....																		
Goodhart.....																		
Hayden.....	92										92							
Hodgson.....		8	21									8	21					2
Holmes.....		2										2			5			
Kinlock.....																		
Koch.....															79			
Lebert.....		6103										103						
Le Fort.....																	241	
Lisfranc.....																		
Meyers.....			34			75							109					
Norris.....															60		138	
Pilz.....																	482	
Poore.....			8										8					
Roux.....																		
Poland.....																		
Sibson.....		6177		87	193	140	120	26	72	71		177	703					
Syme.....																		
Wyeth.....																	789	
Wenzel ⁷		7	4		2	1	1					7	8	1	1			

1. Including Wounds.
2. Femoral, Popliteal and Brachial; group could not be satisfactorily separated.
3. Also, involving Carotid and Subclavian Artery.
4. Also, involving Axillary Artery.
5. Three, near Bifurcation of Aorta.
6. 131, near Celiac Axis.

MEDICAL SOCIETY FROM VARIOUS SOURCES.

CASES OMITTED.

The cases added by myself have never before been tabulated.

Middle Cerebral.	Posterior Cerebral	Cranial.	Femoral.	Gluteal.	Gluteal and Sciatic.	Hepatic.	Common Iliac.	External Iliac.	Inguinal.	Innominate.	Ophthalmic.	Popliteal.	Pulmonary.	Radial.	Splenic.	Subclavian.	Subscapular.	Anterior Tibial.	Posterior Tibial.	Ulnar.	Vertebral.	Not Named.
			141		7			43		25		148				9		1		1	122	408
			226					2		813												886
		66	1	2			2	9		20	1	137	2			23	1		2			551
																						213
					33							89										122
3	1																					4
																						92
			15						12							45						63
																						7
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			25									59										95179
																						109
																						108
																						482
			1							1						1				1		12
												27										532
													22									22
												18										880
																						18
																						789
1						11		1				82		1	1	1						37

7. These cases, including my own of dissecting aneurism, have been reported in the Medical literature from January to October 14, 1886; they are not tabulated elsewhere; reported by Caton, Hall, Morris, Styan, Shattuck, A. A. Smith, Berényi, Black, Sennand, Benham, J. A. Kelly, Prewitt, Cayley, Barwell, Hobson, Walker and others.

8. One of these two cases, a man sixty-three years old, a hard drinker, was to be operated on (1874), but he tried to get out of his bed contrary to orders, the aneurism burst, gangrene rapidly set in and the leg was amputated in middle of thigh, with fatal hemorrhage two days later. The case was never reported.

H. P. WENZEL, M.D.

by the greatest care and prudence, escapes the abortion, and after confinement strictly obeys her physician, she may find herself with a degree of health unknown to her for a long time.

3225 Vernon avenue.

THORACIC ANEURISM, WITH A CASE OF DISSECTING ANEURISM OF THE INFERIOR SURFACE OF THE AORTIC ARCH.
By H. P. WENZEL, M.D., Ex-President of the Rock River Medical Society.

[Read before the Rock River Medical Society on November 9th, 1886. Published by request of the Society.]

It is said we learn more by "mistakes and failures than by success;" therefore I present for your consideration Thoracic Aneurism, with a case under my care which proves that there is "no absolute sign in aortic aneurism." My diagnosis was not verified on autopsy. The specimen could not be obtained.

On July 26th, 1886, L. Y., an actress, a native of Virginia, consulted me. She has been on the stage sixteen years, married sixteen years, is 32 years old, 5 feet high, and weighs 135 pounds. She was never pregnant, and her only sickness was a bad cold ten years ago. She suffers from obstinate constipation, palpitation, sometimes a severe pain under the left breast, which frequently shifts to the right temple. Her sleep is broken, and she is restless; tires easily, and on exertion gets "winded." Her appetite is good; her menses are regular, and her urine normal. She sweats easily.

Status præsens: She is well developed, has gray eyes, dark hair. She denies being intemperate. Her tempera-

ture is normal; her pulse is 80 and regular; her respiration is 18, excepting a few bronchial râles at base of the lungs; physical examination is negative. Prescribed: $\mathcal{R}$ cascara cordial $\mathfrak{z}$ iiss, spts. ath. co. $\mathfrak{z}$ ss, liq. strych. br. $\mathfrak{z}$ ss. M. Sig. Tablespoonful, t. i. d.

July 27th. Temperature normal; pulse 84. There were several copious movements of her bowels, the pain markedly less; did not sleep during the night and feels nervous. She complains of a "lump" in her throat and fears sudden death. To take $\mathcal{R}$ elix. valerian ammon. $\mathfrak{z}$ ss, syr. brom. co. $\mathfrak{z}$ ij, elix. calisaya c. ferri et strych. $\mathfrak{z}$ iiss. M. Sig. Teaspoonful every two or three hours during the day, and bromidia q. s. to produce sleep at night.

July 28th. Temperature normal; pulse 74, full and regular; respiration 18. She slept all night after taking a teaspoonful of bromidia. She feels much better; the pain is gone, and the "lump" don't trouble her much, but she has anorexia. Continue the mixture of the bromides and take a teaspoonful four times daily of $\mathcal{R}$ tr. cinchonæ $\mathfrak{z}$ iiss, elix. calisaya co. $\mathfrak{z}$ iiss. M.

July 30th. Pulse 74; respiration 18. She has some appetite, and no pain. The "lump" has not returned, and she feels well; her bowels are regular. The report is similar for the two following days.

August 2d. There is a severe burning pain under the left breast, pain in bowels and diarrhœa, profuse sweating. Her temperature is 99.5° F., pulse 96, feeble, and respiration 24. Ordered: $\mathcal{R}$ spts. chloroformi $\mathfrak{z}$ ss, tr. capsici $\mathfrak{z}$ i, syr. zingiber. $\mathfrak{z}$ ij. M. Sig. Teaspoonful hourly until relieved, and then a teaspoonful four times daily of $\mathcal{R}$ syr. brom. co. $\mathfrak{z}$ i elix. calisaya c. ferri et strych. $\mathfrak{z}$ ij. M.

August 3d. Diarrhœa is checked, and there is no pain. She returned from a visit in the latter part of August and reported having had a good appetite, sleeping well, and having no pain anywhere. She was able to run up or down stairs without fatigue or shortness of breath, and the "lump" came only a few times.

September 1st. At 7 P.M. I was again called to see her. Her temperature was 99.5° F., pulse 84, respiration 22; had "some chills" and a "queer feeling" at the heart, and "an indescribable feeling along the wind-pipe;" there is an irritable cough. Physical examination negative, except a few posterior bronchial râles. Take *R* quin. sulphate ʒij, morph. sulph. gr. ij, fl. ext. licorice ʒiv. M. Sig. Teaspoonful every two or three hours.

September 6th, 9 P.M. Have not seen patient since last date. She said she felt "good after taking the last medicine, but the cough did not stop." Temperature 98.8° F., pulse 82, respiration 24; physical examination revealed only a few bronchial râles at base of lung. There is some dysphagia and anxiety. Placing her hand under the left breast she said, "I can't get my breath when the pain comes here; this will kill me." Firm pressure relieved the pain. Take *R* fl. ext. grindelia rob. ʒiss, tr. opii camph. ʒss, cascara cordial ʒiss. M. S. Dessertspoonful every two hours during the night.

September 7th, 10 A. M. Temperature 98° F.; pulse 78, regular; respiration 22 and easy; profuse perspiration; bowels moved twice; the "lump" is troublesome again, and a choking sensation is complained of. The cough is rasping, spasmodic, and at intervals very annoying; but aside from posterior bronchial râles there are no abnormal sounds dis-

coverable anywhere. Consultation was requested, and family declined it.

September 8th, 9:15 A.M. Her husband called at my office, saying his wife had an "awful pain" under the left breast, and had a "regular ague chill;" breathing as usual, no cough, and sweating. Wrote $\mathcal{R}$ quin. sulphat. $\mathfrak{z}\text{i}$, pulv. opii gr. x, calomel gr. v. M. Ft. cht. No. x. Sig. One every two hours in water. One hour later I found her sitting in bed vomiting, probably from taking a powder in a *dry* wafer. I gave a powder five minutes later in a *wet* wafer, which was retained, and at 10.50 she was easy. Temperature 97.5°F ; pulse 84, regular, but weaker than usual; respiration 22; no cough. She now described the pain as "if some one bored a hot iron into my breast under the heart."

At 2:30 P.M. I was hurriedly called, and found her eyes fixed, pupils slightly, but equally, dilated; she was gasping; her pulse 80 and thready. The surface of her body was very pale and clammy, her extremities icy cold. Whisky hypodermically, friction, etc., failed, the pulse disappeared, a gasp, followed by a long-drawn sigh, a slight tremor, and the curtain dropped on her last act at 2:40 P.M.

I certified *fatty heart* as the cause of death. But owing to subsequent rumors of foul play on the part of the husband, I requested a post mortem examination to settle the question. Sixty hours after death the autopsy was made by Drs. Scribner and Eidemiller, under supervision of the coroner and in presence of myself, Dr. Martin, health-commissioner, Dr. Miller, a representative of the family, a detective and the undertaker.

The body well preserved; adipose tissue under skin nearly an inch thick; no marks.

Thorax opened in the usual way. Right pleural cavity filled with liquid blood, and two blood-clots each the size of a goose egg lay at the base of the right lung near the spinal column. Left pleural cavity contained a very small quantity of serum.

The great vessels of the neck and œsophagus were tied and cut off and a double ligature was placed around the gullet and aorta just above the diaphragm and the tubes severed between the ligatures to facilitate removal *en masse* of the thoracic organs, which was done under difficulties owing to numerous strong old adhesions of the lower lobe of the left lung to the costal pleura and diaphragm. The right lower lobe was also bound down by adhesions but less firmly than the left. Both lungs were exsanguinated, very pale, and the lower lobes presented old inflammatory changes—the left the most.

The pericardium contained a very small quantity of serum—no adhesions.

The heart was imbedded in adipose tissue, small, flabby, and valves normal.

Ascending aorta normal; on the inferior (concave) surface of the middle of the arch was a sausage-shaped swelling, an inch and a half thick, extending downward nearly to the diaphragm, the œsophagus lying in front, the thoracic aorta behind. The gullet was adherent to the tumor and the lower half deeply imbedded in the sac. At the upper right lateral surface of the tumor, just beneath the descending portion of the arch, was an opening into the sac large enough to admit a finger, while the intima was perforated in the middle of the (concave) arch. At the point of rupture the sac wall was very thin and friable; the sac contained fibrin, thrombotic

detritus, and a recent clot in its lower portion. The adventitia formed the outer wall of the sac; the media was partly destroyed; there was no further lesion in the intima. Other portions of the aorta were normal; the innominate, carotid and subclavian arteries were free from disease.

Stomach normal, empty; spleen normal; liver normal, gall-bladder full of bile. No other organs examined.

Cause of death: Rupture of dissecting aneurism of the arch of the aorta.

Remarks.—Autopsical evidence explains few of the symptoms. Classical symptoms of aneurism—pulsating tumor, bruit or murmurs, eye and voice symptoms, unequal pulse—were absent; dysphagia was a very late symptom, dyspnœa was not marked; palpitation was complained of in July but did not recur. The pain under the left breast was absent more than present and shifted to the right temple; the “lump” and nervousness yielded to tonics and nervines, and did not return for weeks. The dry, harrassing cough was doubtless a reflex act and the globus had a similar origin. The bronchial râles were either caused by reflex irritation or pressure, or both combined. The general picture of the patient during the week preceding death resembled that of malarial intoxication. There were all the signs of neuralgia or hysteria, none of aneurism.

While death was inevitable, vomiting hastened the bursting of the sac at the weakest point by sudden compression and forcible, wavelike, upward propulsion of the sac contents and the finale was—dramatic.

The age of the tumor cannot be accurately given; that it was recent is possible. Theatrical people have a hard,

arduous, restless, emotional life with much exposure, and are not free from intemperance.

That the intimate adhesion of the aneurism to the œsophagus caused so little dysphagia is remarkable; and in the absence of a history of illness or injury the lesions of the lungs and pleural adhesions are unexplained.

As the great vessels were not affected or implicated by the perforation in the intima, and as there was no obstruction to the blood current, the regularity of the pulse was not interfered with.

With your permission I now present a condensed description of aneurisms of the aorta within the chest and their treatment. I also present for your inspection the tables arranged for comparison—a brief bibliography is appended, voluminous references are out of place in an essay of this kind.

Introductory.—"Aneurism of the aorta develops, particularly in those localities against which the blood-current impinges with special force," says Eichhorst; but dissecting aneurism is an exception to this general rule, and is found only on or in connection with some portion of the aorta, being most common in the thorax. Aortic aneurisms occur in their relative frequency as follows: ascending aorta, arch; descending thoracic aorta, abdominal aorta.*

If a certain area of the aortic wall is weakened a cul-de-sac gradually buds out, enlarges, and the result is a *sacculated aneurism*, on which a second sacculatation may develop. If the entire aorta is dilated from any cause for a certain distance a *fusiform* aneurism results, and if a portion of the intima be weakened from any cause resulting in a solution

* Shrady estimates that one death in every 800 is from aneurism. Editorial in the *Medical Record*, July, 1886.

of continuity, through which the blood insinuates itself between the arterial tunics, a sac is formed which may reach to the diaphragm—in one case it reached to the bifurcation of the abdominal aorta. If a local degenerative process of the media causes the intima to yield secondarily the result is a *dissecting aneurism*. If the intima is again perforated at the lower end of the sac and the blood-current re-enters the aortic tube and produces the appearance of a double aorta, the sac wall may be thickened by laminated fibrin within or by adhesive inflammation to adjacent structures without.

The *size* of an aneurismal tumor varies. I have observed numerous aneurisms in the brain smaller than a millet seed. In the larger arteries they vary from the size of a pea to that of an adult head. Baumberger's case of aneurism of the aortic arch projected upward so far that the patient's chin rested on the tumor.

Aneurisms frequently destroy the sternum, ribs or spinal column by erosion, or the inflammatory action resulting from continuous pressure may produce adhesion to neighboring structures, and pressure upon the nerves may cause pain, dyspnœa, etc., and compression of the œsophagus may cause dysphagia.

Frequency.—Lebert and Meyer claim that aneurism most frequently involves the arch, but authorities generally give the first place to the ascending aorta, and statistics bear them out. Of Crisp's 551 cases of aneurism, 175, or 31 per centum involved the thoracic aorta, and of 167 of these, 98 involved the ascending aorta, 48 the arch and 21 the descending aorta. Hodgson's collection of 63 cases contains 21, or 33 per centum of thoracic aneurism. In Sibson's collection of 880 cases, 460, or 52.3 per centum involved either the ascending aorta or arch. Of his 703 cases of aneurism of thoracic oarta

87, or 12.37 per centum were within the pericardium; 193, or 27.45 per centum involved the ascending aorta; 140, or 19.91 per centum involved the ascending aorta and arch; 120, or 17.079 per centum, the transverse aorta; 20, or 2.84 per centum, the transverse and descending arch; 72, or 10.24 per centum, the descending arch, and 71, or 10.09 per centum, the aorta below the arch. Hence, 622, or 88.47 per centum of these 703 cases of aneurism affected the ascending aorta and the arch; 420, or 59.7 per centum affected some portion of the ascending aorta, and 280, or 39.82 per centum involved some portion of the arch. Of 109 cases collected by Meyers from the reports of his regiment, and from Netley Hospital, 75, about 70 per centum, affected the ascending aorta or arch. This table will show at a glance the relative frequency of the different portions of the aorta affected.

Aneurisms involving the convex portin of the arch frequently implicate the innominate, carotid or subclavian arteries, but judging from exhaustive researches aneurism of the central portion of the concave (inferior) surface of the arch must be very rare, as I failed to find a single case like mine.

Age.—Under the age of 20 years aneurism is not common, and only about 5 to 6 per centum are found under that of 30. The largest number of cases occur between the ages of 30 and 50 years; Lebert, however, says that they are most common between the ages of 45 and 60 years. Garland's 69 cases appear as follows:

	Per centum.
Between the ages of 20 and 30 years, 4 cases-----	5.65
Between the ages of 30 and 40 years, 21 cases-----	30.43
Between the ages of 40 and 50 years, 29 cases-----	42.03
Between the ages of 50 and 60 years, 14 cases-----	20.29
Between the ages of 60 and 70 years, 1 case-----	1.45

} 72.46

Crisp's cases may be tabulated as follows (omitting indefinite cases) :

	Per centum.
Between the ages of 10 and 20 years, 5 cases.....	0.994
Between the ages of 20 and 30 years, 71 cases.....	14.11
Between the ages of 30 and 40 years, 198 cases.....	39.56
Between the ages of 40 and 50 years, 128 cases.....	25.64
Between the ages of 50 and 60 years, 65 cases.....	12.92
Between the ages of 60 and 70 years, 25 cases.....	4.97
Between the ages of 70 and 80 years, 8 cases.....	1.59
Between the ages of 80 and 90 years, 2 cases.....	0.397

Sacculated or **fusiform aneurism** is more common in middle age, while **dissecting aneurism** is said to increase with advancing age (Peacock). My case was 32 years of age. Broca claimed that the liability to aneurism of the aorta above the diaphragm increased with advancing years, while the opposite obtained below the diaphragm.

Sex.—External aneurisms are most common in males, and internal aneurisms of the circumscribed form are most frequent in males, (?) being from 66.66 to 80 per centum (Blakiston, Crisp, Peacock). In 82 cases Garland found one seventh, Crisp found less than one eighth, and Hodgson about one ninth in females. In the Registrar-General's report (Great Britain, 1874) 685 deaths are attributed to aneurism, of which 537, or 89.5 per centum were males. Of 21 cases of dissecting aneurism 14 were females and 7 males.

Holmes believes that internal aneurisms are common among women whose way of life exposes them to the vascular excitement following intemperance, vice or mental emotions; and Rendle's statistics of internal aneurisms among female convicts show conclusively that mental depression and excitement are potent predisposing factors.

Aetiology.—The causes of aneurism may be mechanical, local or constitutional. A fall, blow, push, concussion of the body, running, jumping, heavy lifting, strains, sudden interference

with respiration, or stretching or compression of the neck after violent exertions, are potent factors if the aortic tunics are weakened from any cause. Injury of the wall of the vessel by stab, shot or other wound may be followed by traumatic aneurism. Certain employments requiring powerful exertions or violent straining causing over-distension of the aorta leading to slow atheromatous inflammation (Moxon) may cause aneurism. Tight lacing, constriction of the neck by tight collars or accoutrements (Frotnute). In the British army the deaths from aneurism exceed eleven times the mortality from the same disease in civil life, and this enormous death rate was attributed to the old-fashioned stock or collar (Meyers). Exposure, intemperance, severe or long continued mental emotions or excitement are Aetiological factors; continued intra-vascular pressure tends to weaken the walls of the vessel.

Mechanical impediments beyond the arch, loss of muscular tone in the tissues, embolus, vaso-motor palsey (Rokitansky) is denied by Niemeyer. The result of a ligature of a vessel tends to dilate the wall of the vessel.

Hereditary predisposition is questionable, but Fuller relates the history of a case whose paternal grandfather, uncle and father had all died of aneurism, and whose sister was afflicted with that disease.

The aneurismal diathesis is an improbable factor, but a case in which sixty-three aneurisms were found is on record.

Fatty degeneration, atheroma, calcific spots whose plates have sharp edges which wound the intima, chronic endarteritis, are direct causal factors. Ulceration or abscess of the wall of the vessel endarteritis even primary inflammation or atrophy of the external or middle coat of the artery may cause aneurism. • The most prevalent seat of chronic endarteritis is in the

ascending aorta and arch, and rupture or aneurism is most common here.

Aortic regurgitant disease following rheumatic endocarditis may cause aneurism. Powell saw a lad aged 17 years suffering from aortic aneurism which could be traced only to two rheumatic attacks in his eleventh and twelfth years.

Gout and syphilis dispose to degenerative processes in the tunics of the arterial coats. George Ross asserts that fifty per centum of the aneurismal cases have had syphilis. It is remarkable that aneurism is thirteen and a half times more prevalent per 1,000 men in the British army than in the navy (Barwell). Certainly no one will maintain that sailors are more virtuous than soldiers. Both are subject to great hardships, violent exertions and exposure at certain times ; but the soldier's uniform stretches and constricts the neck, keeping him in an unnatural and strained position, while the sailor's clothing is loose and his training gradual.

Any constitutional trouble which exerts a degenerative influence on the arterial coats may be a factor in the causation of aneurism. *Symptoms* are usually absent in the beginning of this disease, and death may result without the least suspicion of aneurism. Free living, intemperance or violent exertions may be followed gradually by palpitation, dyspnœa, deep-seated pain in the chest over which there may be a pulsating tumor and a bruit. The tumor may compress the air-tubes, œsophagus, neighboring blood vessels or the vagus and recurrent laryngeal nerves, and dropsy, discoloration, pain, altered voice, throat symptoms, disordered vision, headache, blood-spitting, may be produced, erosions of the bony walls of the chest may follow and palsy or paraplegia may obtain before death results.

The *pain* may be dull, intermittent, with exacerbations, or

persistent, hot, boring or burning in character, frequently agonizing and preventing rest or feeding; it may be seated over the tumor, under the left breast, at distant points and may shift from one point to another.

Dyspnœa is present when the aneurism compresses the air-tubes, or when innervation of the larynx is interfered with. The intrinsic muscles of the larynx are expiratory (Sanderson) and section of the recurrent laryngeal nerves paralyses the vocal cords which are sucked together at each inspiration (Reid, Ligallois). Compression of one of the pulmonary plexuses may produce dyspnœa resembling asthma (Gairdner). Irritation of the pneumogastric or any of its branches may cause spasmodic dyspnœa. The tumor may narrow the trachea or bronchi producing an accumulation of mucus at the narrowed point, hence an obstruction, and difficult breathing follows (Bristowe).

Dysphagia is not a prominent symptom and may be absent, although the œsophagus is compressed by the aneurism (Leudet); the gullet may be opened by erosion from the tumor and difficult swallowing may not be present (Fuller, Quain). In my case dysphagia was a very late symptom.

Palpitation and irregular or uneven pulse will be noted when the tumor or sac interferes with the normal flow of the blood current through the aorta or vessels which spring from the arch. Nervous reflex irritation may cause palpitation. In my case the pulse was never irregular or uneven nor more than ninety-six at any time, but cases are reported with a pulse from 130 to 140 beats per minute (Powell).

Headache, if present, may be severe, paroxysmal, continuous, and may simulate neuralgia, migraine or clavus.

Hæmoptysis is rare during the progress of aortic aneurism, but may become a marked symptom before death. Gairdner

mentions a case in which bloody expectoration preceded death for some time, and Blakiston records a case in which fragments of discolored coagula were expectorated with blood several weeks before death. (Diseases of the Heart.)

Unequal pupils must be received with caution, as one person in every fourteen has one pupil smaller than the other. (Robertson.) If the myotic and immovable pupil be present it is on the same side of the body as the aneurism; it is not a prominent symptom. Powell observed it in four cases out of thirty-six in aortic-arch aneurism; and Walshe rarely observed pupillary changes either larger or smaller in this disease.

By *inspection*, large, tortuous veins on the side of the neck and humeral region will be observed if any of the larger veins are compressed; the face may be reddened, there may be œdema or dropsy of the upper or lower part of the body; pulsation in the intercostal spaces if the aneurism closely approach the chest wall; the antero-posterior diameter of the upper part of the thorax may be increased, the superior portion of the sternum prominent, rounded and mottled with blue veins. There may be a cyanotic color in the face, neck or chest. If the tumor is very large the sternum and ribs may be displaced outwards, and in extreme cases the chest wall may be destroyed by erosion and the tumor projects externally.

Palpation will detect changes in the coats of the blood vessels and a difference in pulse-beat on the two sides of the body (if present). It may reveal two centers of synchronous pulsation within the chest with a perceptible thrill over the aneurism, which heaves and expands in every direction, and if distinct from the heart is diagnostic; but such an aneurism must be near the surface. If the interior of the sac-wall is thickened by laminated fibrin the thrill may be lost and the aneur-

ism then resembles a tumor lying on the aorta. In obscure cases "pressure with the flat of one hand on the anterior part of the chest while the other is placed between the shoulders during expiration." (Stokes) will aid in detecting deeply-seated impulse expanding in every direction. A distinct thrill felt with the beat of the tumor is not common. Powell observed it only eight times; Hope never saw a case of aneurism with thrill, and Walshe considered thrill a common sign in peripheral dilatation.

Percussion will reveal dullness or increased resistance if the aneurism is near the surface, of large dimensions, lined with laminated fibrin or coagula, or solidified. When the tumor is deeply seated or small, percussion will be either indefinite or negative.

Auscultation may reveal only a few bronchial râles, as in my case, or a systolic murmur accompanied by a bruit may be heard over the tumor. All auscultatory signs are most distinctly heard over the aneurism and may be conducted along the aorta and heard in the interscapular region. The bruit is not a reliable sign. Long ago Parkes pointed out the importance of ascertaining whether the bruit replaces one of the heart sounds (Clinical Lectures). In about one-third of the cases of aneurism there is no audible bruit; Powell noted its presence in twenty-two cases of thirty-six reported, it being double in twelve cases. Lebert claims to have observed it in the earlier stages of one-half of his cases. In dissecting aneurism this sign is absent.

Diastolic shock, when present, is significant of aneurism and an absolute sign if it follow a systolic impulse in disease of the ascending or transverse aorta. Powell noted this sign fourteen times in thirty-six cases, and it was also twice ob-

served in aneurism of the abdominal aorta. (Balfour, Wickham, Legg).

Diagnosis. The sign-center for aneurism of the ascending aorta is in the second right intercostal space close to the sternum. Cyanosis and dropsy of the upper part of the body supervene if the innominate vein or ascending vena cava is compressed. As the tumor enlarges the heart is displaced downward and the area of pulsation enlarges downward and to the right (Gibson).

The sign-center for the arch is the manubrium sterni towards its left edge. A forward projection of the tumor is not common; backward the tumor may press upon the trachea, bronchi, œsophagus, venæ cavæ, vagus and recurrent nerves. If the tumor springs from the concave surface of the arch and projects downward, there may be vague and indefinable signs, peculiar sensation along the trachea, globus, irritable cough, slight dyspnœa, and dysphagia when the tumor has somewhat enlarged. Pain at the apex of the heart may simulate cardiac neuralgia, intercostal neuralgia, pleurodynia, hysteria, etc. In dissecting aneurism involving the concave (inferior) surface of the arch unequal pulse is absent.

The sign-center for the descending portion of the arch is the left upper interscapular region. There may be severe pain in the back and shoulders, pulmonary dyspnœa, spasmodic in character, or diminished respiration and dullness at the base of the left lung. Very large aneurisms may cause erosion of the vertebræ and pressure upon the cord. There may be dysphagia, throat and eye symptoms.

Aneurism of the thoracic aorta below the arch is not very common, and is difficult to discover if small. Laryngeal

symptoms are not present. Severe and continuous pain may be the only symptom. If the tumor is large, curvature of the spinal column and anterior displacement of the heart will be noted and the œsophagus, bronchus, or portions of the left lung will be pressed upon. There may be pulsation and dullness over the tumor, and pressure upon the ascending cava will produce enlargement and tortuosity of the superficial veins, and œdema or dropsy of the lower extremities. Erosion of the spinal column may supervene and may produce most agonizing pain, palsy or paraplegia.

Aneurism of the convex portion of the arch frequently implicates the innominate, carotid or subclavian artery. It is frequently impossible to differentiate between aneurism of the arch simple, and aneurism implicating one of the vessels springing from the arch. Aneurism of the arch may be mistaken for innominate aneurism and *vice versa*. There are no absolute signs to differentiate one from the other. In a collection of twenty-four diagnosed innominate aneurisms (Barwell) more than thirty-three per centum proved either aortic aneurism or aortic dilatation on autopsy.

In dysphagia resulting from an obscure cause the œsophageal sound should be sparingly and cautiously used to avoid penetration and rapid death from hæmorrhage.

Sphygmographic tracings will aid in the diagnosis in many cases, by showing the decreased blood pressure on one side.

Differential Diagnosis.—"Aortic aneurisms may be one of the easiest problems in clinical medicine," or may present "difficulties which defeat the most skillful diagnostician." "It may be diagnosed as present" and *vice versa* (Garland). Many aneurisms show no signs of their presence

(Guttmann), and their murmurs frequently disappear, temporarily or permanently (Eichhorst).

There is only one positively characteristic phenomenon of thoracic aneurism and that is the existence of a tumor in some part of the chest which beats isochronously with the heart, and which expands in every direction (Balfour). The diagnosis can rarely be made with certainty (Powell), for so long as an aortic aneurism has not obtained considerable dimensions, and has not touched the chest wall, characteristic symptoms are absent (Guttmann).

An aneurism is a tumor and many of its symptoms are signs of a tumor. It may pulsate from lying on or over the aorta, therefore it is essential to determine whether the tumor is solid or is an expanded vessel—a cystic tumor or large abscess lying on or over the aorta will present symptoms of aneurism and the diagnosis will be uncertain. A solid tumor may pulsate, but does not expand (Balfour), there is no bruit of a booming character (Hayden), nor accentuation of the second sound of the heart (Walshe). Aneurismal tumors change their size and mural tension (Peacock;) other tumors are not so affected. The following points will aid in diagnosis:

1st. Aneurismal tumors may rise and fall during coughing, swallowing or straining, and simultaneously expand in all directions.

2d. Under 25 years of age and absence of injury is against aneurism.

3d. Great emaciation with absence of internal pain negatives aneurism.

4th. Great cardiac displacement and absence of a large pulsating tumor negatives aneurism.

5th. Severe continuous or paroxysmal pain in the chest favors aneurism.

6th. Unequal pupils, irregular pulse in the radials or carotids, dysphagia, laryngeal or bronchial dyspnœa favor aneurism.

7th. "Absence of signs indicating ordinary heart or lung affections in an individual suffering persistent anomalous disturbances within the thorax, although he does not exhibit any failure of general health, affords strong suspicion of aneurism" (Walshe).

That diagnosis is frequently extremely difficult or impossible is shown by a host of cases, from Riles (10), Crisp (7), Smith, Bell, Guthrie, Feame, Pelletan, Dupuytren, Barwell and others, cases taken for troubles other than aortic aneurisms, and *vice versa*. In 1865 Heath tied both the right carotid and subclavian arteries for supposed innominate aneurism, and the autopsy four years later proved it aortic aneurism. Fenwick's case was diagnosed innominate aneurism and section proved it wholly aortic. My friend Prof. Senn relates a case diagnosed thoracic aneurism which on post-mortem examination proved to be a solid tumor overlying the aorta. Mahomed and Golding Bird report a case of abscess of a gland in the episternal notch taken for aneurism. In a case of innominate aneurism the symptoms were so vague that the diagnosis was made only when the sac was laid bare by incision. In another instance the presence of a tumor in the episternal notch, with double murmurs, pulsation, and pressure symptoms, on section proved to be a vascular tumor of the *manubrium sterni*. One of Guttmann's cases presented all the classic symptoms of aortic regurgitation and none of aneurism, in which section

showed the aortic valves intact, and revealed a large aneurism of the ascending aorta. Dujardin-Beaumetz's case presented contraction of the left pupil, sudden reddening of the left half of the face, transient aphonia, intermittent dyspnœa, suppression of left radial pulse, and a double souffle along the aorta, and the necropsy showed simple endarteritis of the arch without dilatation.

Inflammatory conditions implicating the vagus nerve or its thoracic branches may produce symptoms of the eye, throat and vascular system resembling aneurism.

Chronic empyema of the pleural cavity may simulate aneurism, but absence of bruit, more extensive dullness, irritative fever and pointing of the abscess would be distinctive signs. Birard saw a case of this kind in which a tumor to the left of the sternum, which appeared and pulsated like an aneurism, subsequently discharged pus.

Retraction of the margins of lung tissue overlapping the heart and aorta—presenting dullness, forcible local pulsation, bruit, palpitation and dyspnœa—has been mistaken for aortic aneurism (Powell), and aortic regurgitant disease may simulate aneurism (Hope).

Prognosis.—In the large majority of cases aortic aneurism is fatal, and “the uncertainty of the time and suddenness of death give this disease a peculiar terror,” and frequently a dramatic ending. For while “the sac-wall may be thickening by fibrinous layers at one point fatal erosion may proceed at another.”

Duration.—The progress of aneurism is rapid and in most cases fatal within a few years. From a large number of observations Lebert places the average duration from six months to four years. In 40 cases of which the duration of the disease was well known 20, or 50 per centum, died during the first year, 9 lived 2 years and 3 lingered 5 years (Garland).

Peacock and others limit the time to five years; but many cases are not diagnosed during life, others only shortly before death, and hence an exact limit cannot be given.

Mode of death.—In many cases the direct cause of death is rupture of the aneurism into cavities, vessels or tubes. In a series of 106 cases 39 terminated by rupture, and 13 of these or 33 per centum burst into the pericardium. Of Thuman's 18 cases of thoracic aneurism 11 communicated with the pulmonary artery, 4 with the cavity of the heart, and 3 with the venæ cavæ. Of 42 cases collected by Sibson and Barwell:

Seventeen cases of aneurism of the ascending aorta communicated with the pulmonary artery.

Six cases of aneurism of the ascending aorta communicated with the right auricle.

Three cases of aneurism of the ascending aorta communicated with the right ventricle.

Four cases of aneurism of the ascending aorta communicated with the descending cava.

Three cases of aneurism of the ascending aorta communicated with the left ventricle.

Two cases of aneurism of the transverse aorta communicated with the descending cava.

Seven cases of aneurism of the descending aorta communicated with the ascending cava.

Ascending aortic aneurism, may burst into the right pleural cavity or pericardium externally. Aneurism of the arch may burst into either pleural cavity, the trachea, the bronchi the œsophagus, the lungs, the mediastina, or externally. Aneurism below the arch may burst externally into the left pleural cavity, the œsophagus, or the spinal canal.

Rupture of an aneurism is not always immediately fatal. The so-called "weeping aneurism" may pour out small quan-

tities of blood for weeks. Neligan's case discharged blood through an opening near the second rib on the right side for more than a year, and the hæmorrhage was finally checked and the tumor solidified. In another instance a patient mistook an aneurism for a "bloodboil," and squeezed it with his chin to favor bleeding until he fainted. Hæmorrhage then ceased and did not recur. Aneurism may cause death indirectly by causing secondary emboli or infarcts; by asphyxia, starvation or exhaustion, and from the size or pressure of the tumor. Sudden formation of a soft clot within the sac may result in inflammation and suppuration which may kill the patient before the tumor bursts. A very small number of cases die of acute intercurrent disease.

The more latent the aneurism the more frequently death occurs by rupture.

Notwithstanding Flint's dictum, "that clinical observation shows that patients afflicted with thoracic aneurism rarely have pulmonary tuberculosis," it is evident that interference with respiration has a deleterious effect on the lungs, for in Harrot's collection of 77 cases phthisis was established as present in 18 cases of 42 examined. The remaining 35 cases were not examined to discover lung changes.

Treatment, in many cases of thoracic aneurism, is utterly futile, but in a large number euthanasia is desirable to relieve the pain and to improve the general health. The first step in treatment is absolute rest in the recumbent or semi-recumbent position. Worry, excitement, anger and violent mental agitation may prove rapidly fatal by syncope or rupture of the sac, and hence there must be mental quietude. Stimulants must be prohibited, the diet carefully regulated, the bowels kept soluble and the kidneys active. A long rest

has more than once shown remarkable results. It is difficult to carry out surgical measures, and the treatment promising best results is rest and such remedies as may be required. The ancient treatment was copious venesection, frequently carried to syncope, which was supposed to possess some occult power to cause coagulation within the sac (Thackrah, Gulliver and others).

Valsalva (1748) treated aneurism by phlebotomy and enough diet to starve his patients, and forty days rest in bed was rigorously carried out. Tufenell improved Valsalva's method, by omitting venesection and giving either low diet or dry diet. The results from this treatment are encouraging, and it deserves repetition with appropriate remedies added.

The number of drugs or remedies employed and recommended for aneurism is legion, but most of them are utterly useless. It is well to remember that thoracic aneurism is fatal within a certain time, and that the patient's distress must be relieved; to prolong his life and relieve his suffering being our aim. The remedies may be arterial sedatives, nervines, anodynes, alteratives, and probably tonics in some cases.

Intra-vascular pressure must be reduced, and the pulse brought down to 60 and kept there. The best remedy is tincture of aconite root in small doses frequently repeated. Aconite not only reduces pulse and blood pressure, but benumbs the nervous system as well. Toxic doses may not do so well as in Prof. Pancoast's case, in which a subclavian aneurism was cured by an overdose of aconite taken by accident! Tincture of veratrum viride, or veratria ointment, may be used, but both are powerful depressants, and

vomiting and collapse must be avoided. Gelsemium is a good sedative and relieves pain. Digitalis is a dangerous drug in thoracic aneurism, and should not be used, because of its cumulative tendency and of the increase of the heart's force which it causes. Belladonna, or atropia, is useful in small doses, and is highly extolled in Europe. To control nervous reflex irritation the bromides and dilute hydrocyanic acid stand at the head of the list. Chloral hydrate or urethan may be used to overcome insomnia, anodynes to assuage pain, but opium or its salts should not be too freely exhibited. Large doses of the bromides are required to control the nervous system at times, and they should be exhibited until the system is well under control, when the dose may be reduced or given at longer intervals. The writer has frequently taken four drams of the bromide of potassium at a single dose to relieve an agonizing migraine, from which the relief was prompt, within an hour or two, and no bad after effects followed.

Ergotin was successfully employed by Langeubeck (1869) by parenchymatous injections near the aneurism. It reduced the size of the tumor, lessened the pulsation, and markedly relieved the pain. Dutoit (1871) and Carlin (1878) had equally favorable results. The fluid extract may be given internally.

Tannin and acetate of lead have been recommended, but aside from astringency their therapeutic power over aneurism must be small indeed.

Iodide of potassium was first prescribed in cases of aneurism by Chutterbutty, of Calcutta (1862), and recommended by Roberts (1863) and championed by Balfour a little later. At the present time it is generally considered a sort of specific in

internal aneurism. Berényi cured (?) his case of aortic aneurism in two months by ordinary doses! Cayley's case was not benefited by "diet and iodide of potash." Whether the iodide causes increased coagulation of the blood, or produces a slow thickening of the sac-wall (Bramwell) is not material. Its alterative and "dissolving effect" on syphilitic tissue changes have made this salt a so-called specific, and since aneurism is frequently the sequence of venereal infection the iodide may be valuable on that score. But judging from the results of a host of cases treated by this drug it is evident that rest, diet and total abstention from stimulants received no consideration in the results obtained; and, further, when the patient threw off restrictions and indulged in stimulants, plentiful feeding, or exercise, the disease advanced rapidly in spite of large doses of the iodide. It is very difficult to prove its "specific value" in aneurism, for the potassic iodide cannot be given alone while everything else is withheld. Sir William Gull and Holmes consider it of little value, and Barwell says, "I have not found a single case of aneurism cured by iodide of potash." It is a useful remedy in this disease, but overrated, unless, we repeat, aneurism is caused by or results from syphilitic infection, and if so mercuric preparations singly or combined with potassium iodide will be doubly valuable.

Surgical treatment of thoracic aneurism has, with few exceptions, proved fatal in a very short time. Double distal ligature of the right carotid and subclavian was successfully performed by Heath, and patient survived four years; by Barwell, whose patient survived fifteen months; by Wyeth, whose patient died a year later of diarrhoea; by Lediard, whose patient died about ten months later; by Kelly, whose patient was alive at last accounts, and unsuccessfully by Ashhurst, who tied the right common carotid, and death occurred next day.

Pressure or compression are, of course, out of the question, and cauteries as employed for aneurism of the anterior palatine artery (Chassaignac), and of the palm (Newmann), are not applicable in aortic aneurism.

Monteggia's method of injecting coagulating liquids should not be attempted, as the danger from embolism, infarcts, etc., is too great.

Dieulafoy and Marsacci injected a weak salt solution, 1:20, into the cavity of the aneurism, but the results were far from brilliant, and the method is useless. Acupuncture originated with Home (1796), who expected that a foreign body within the sac would cause a coagulum, but it led to no practical results (Velpeau, Pravaz, Agnew, and others). MacEwen was more successful. Heath introduced three pairs of needles, interlacing each other, into a subclavian aneurism and left them four days, the result was death; tumor solid (?). Mialago's cases all ended fatally shortly after the operation (1850-5). Rizzoli's first case of aneurism (at the elbow) on withdrawal of needles required amputation to check hemorrhage. In his second case (ilio-femoral) digital compression failing, acupuncture reduced the size of the tumor and lessened the pulsation. Murray's second case (aortic aneurism) was twice punctured, and erysipelas developed in the punctures and caused death. His first case (aneurism of the arch and innominate artery) was treated with (18-20) needles left *in situ* twenty-four hours, and then twenty-four feet of fine iron were introduced. Sudden death occurred two weeks later. His fourth case (saccular subclavian aneurism) was completely transfixed with (20-30) long needles at intervals, causing consolidation, decrease in size of tumor, and relief from pain.

Galvanism was added to acupuncture by Benjamin Phillips (1829) in England and established in France by Pravaz, and perfected by Ciniselli, Duncan, Fraser, Poore, Althaus et al. In fusiform aneurism galvano-puncture is useless, but it may be beneficial in sacculated aneurism. Cinicelli treated thirty-seven cases of aortic aneurisms by galvano-puncture and cured six. Poore's eight cases of thoracic aneurism ended fatally by same treatment. Dujardin-Beaumetz's case of thoracic aneurism died from electrolysis. Black's case of thoracic aneurism died from galvano-puncture, and at the autopsy no coagula were found. Barwell punctured the sac-wall of a thoracic aneurism with a hollow ivory needle, through which he introduced ten feet of steel wire which he connected with the positive pole of a galvanic battery, using a current of about nine or ten milliamperes, and death occurred a week later, with little coagulation.

Whether the needles or the galvanic current produce the best effect it is difficult to determine, but a foreign body produces the same effect in the aneurism whether attached to a battery or not (Heath, Marshal, MacEwen), and the whole benefit derived from galvano-puncture is caused by inflammation and thickening of the sac-wall (Paul). But the dangers of galvano-puncture (Barwell), hæmorrhage, eschars, inflammation of the sac-wall, possible suppuration, embolism, infarcts, etc., are so formidable and the result so uniformly fatal that the risk is too great.

Fine iron wire, twenty-six yards, were introduced through a fine canula into an aneurism of the aortic arch, which had destroyed a portion of the bony wall of the chest, by Moore, in 1864. The operation was easy and almost painless. Inflammation of the sac and surrounding structure, emboli,

infarcts, and great pain followed, and death occurred on the fifth day, and the wire was found to be imbedded in a clot.

Bacelli introduced fine watch-springs into the cavity of the aneurism, and both of his cases proved fatal in a short time.

Murray (third case) introduced twenty feet of catgut into an aneurism of the arch and innominate artery. Death occurred, the catgut was softened and no coagula was found.

Horse-hair (twenty-four feet, nine inches) was introduced into a right subclavian aneurism by Levis (1873). Death occurred from rupture of sac and the hair was found imbedded in a clot.

Bryant introduced thirty feet of horse-hair into a popliteal aneurism and death on fourth day; the tumor being almost solid.

Stimson introduced fifteen pieces of horse hair, each six inches long, into an ilio-femoral aneurism without affect on the tumor.

From the foregoing it is evident that the introduction of foreign bodies into the cavity of an aneurism is generally followed by disastrous results. The practice is pernicious and almost invariably fatal within a very short time. A clot may be found about the coils, but the complications are many, varied and fatal. Thoracic aneurisms are best managed by perfect rest, carefully regulated diet, total abstinence from all stimulants and the use of such remedies as may be necessary to control the circulation, assuage pain, produce the requisite amount of sleep, and if possible, to impress the disease and check its march to a fatal issue.

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PSEUDO-MEMBRANOUS BRONCHITIS. *By* W. R. PATTON,
M.D.

On the night of March 30, 1879, I was called to see Mrs. J—— in consultation with Dr. H., who had been attending the patient from some time in the preceding November. From him, and from the friends of the patient, I learned that her trouble had begun with wheezing at night, very much as in croup, which at first occurred only occasionally. It increased in severity at each succeeding attack until she finally had to sit up in bed in order to breath. About January 1st, 1880, she began to have a troublesome cough. The cough was hoarse and wheezing, and she could lie down only between the paroxysms of coughing. These symptoms increased in severity until her life was despaired of. The fact that the patient was pregnant at this time increased the gravity of the case, but hope was entertained that if she could live until after confinement she would recover.

On March 30th, she was delivered of a healthy, well developed male child, but experienced no relief from her cough. My first visit was made on March 30th, 1880. I found the patient sitting up in bed, with no covering except her nightdress, and she could endure no more. She could not endure the doors or windows closed, although it was snow-

ing, and a very cold, blustering night. She was the picture of death. She seemed almost bloodless; had no appetite, and could take only a swallow or two of anything at a time, without bringing on a paroxysm of coughing, which would continue as long as she had strength enough to cough. The pulse was 140 per minute and very weak. The urine was scanty, thick, and heavily loaded with solids, and there was a puffy œdematous condition of the eyelids and of the skin over the body. Examination of the lungs revealed no trouble except in the bronchial tubes. I could detect no lesion in the throat, and considered the trouble located only in the bronchial tubes; but in this opinion the attending physician did not concur; he regarded it as a pulmonary affection.

As a result of this difference in diagnosis the patient was placed under my professional care.

I prescribed a mixture of hive-syrup, syrup of ipecac, tincture of digitalis, and grindelia robusta, together with a tonic of carbonate of iron, gentian and Peruvian bark in gin, and pursued this course for three days. At the expiration of three days, to my astonishment, she coughed up a specimen of plastic material, (a.) which was a complete cast of the bronchial tubes from the largest to the smallest extremities.*

She was so much relieved by the expectoration of this cast that she could immediately lie down and sleep, for the first time in two months, for during that length of time, she had taken only short naps, and these in a sitting posture. On the next morning when shown the cast which had been expectorated, I was greatly astonished, and concluded that it was a different kind of bronchitis from what I had sup-

*The cast and a photograph of it were subsequently sent to Professor Ingals of Chicago. The accompanying sketch is from a photograph of it.

posed, and different from any I had ever seen. It has been my fortune not to see another, and only a repetition in the

(a.)



142 PATTON—*Pseudo-Membranous Bronchitis*. [Feb. same case. She expectorated, during the progress of the case, twenty or thirty of these membranous casts, but none so complete as the first one, and none with so much difficulty.

I continued the treatment already mentioned with the addition of fifteen drops of the fluid extract of ergot every three hours during the day or when awake. I hoped by these measures to facilitate the expectoration, to improve the general tone of the body, and by the ergot acting on the blood-vessels, to prevent the formation of any more casts. Every day or two for some time she coughed up one or more of these casts, but they were more easily expectorated and were smaller.

In the course of six weeks she seemed so much better that I stopped visiting her, ordering the use of the tonic and ergot for a week, and then the discontinuance of all medicines.

The patient continued in apparently perfect health until she again became pregnant in the summer of 1881. Then the same condition again occurred, but neither so severe nor so alarming. She began immediately to take the tonic and cough mixture mentioned, and also the ergot in ten-drop doses, and no plastic material formed, or at least none was noticed in the sputa. Otherwise the symptoms were the same as those of the first attack. Shortly after confinement she made an excellent recovery, and discontinued the medicines.

The patient continued well until the summer of 1883, when about two months before her third confinement, the same symptoms returned followed by dropsy, but there was no membrane expectorated. In this confinement she was delivered of an eight-month's child, and died, two weeks after delivery, with general anasarca. A few days before her

death she suffered greatly from dyspnœa, and was only able to breathe at all when sitting up, or standing with the assistance of friends. Membranes were evidently present, but she could not expectorate them. One singularity of this case was its recurrence during pregnancy. Prior to the last attack, of pseudo-membranous bronchitis, the family had moved out of my neighborhood, and the patient was attended by another physician until almost a week before her death, when I was again called.

Charleston, Illinois.

EDITORIAL.

MORTALITY IN THE MEDICAL PROFESSION.

The long list of deaths which occurred in the ranks of the medical profession during the year 1886, both at home and abroad, embraces the names of many who have, for years, been recognized as leading spirits in the profession, but who are now numbered among those who have passed away.

In this country no medical man of his generation has occupied a more prominent position in the profession than Professor Austin Flint, M. D., LL. D.

At the time of his death he was little less than seventy-four years of age, and he was as rich in honors as he was in years.

By his works as well as personally, he was well known and esteemed on both sides of the Atlantic ocean.

In addition to the official positions which he occupied in this country, he was the President-elect of the Ninth International Medical Congress, which is to meet in Washington, D. C., in September of this year. Whilst in the death of Professor Flint general medicine lost one of the brightest lights in this country, so general surgery lost, in the death of Professor Alfred C. Post, M. D., and Frank H. Hamilton, M. D., two of its representative men. Both were rich in years and in good work, faithfully performed.

Among the names of other eminent men who died during the year should be embraced the names of Professors John P.

Gray, M.D., LL.D., of Utica, J. F. Miner of Buffalo, W. H. Dudley of Brooklyn, J. G. Richardson of Philadelphia.

In England, two of the most prominent deaths during the year were Drs. Walter Moxon of Guy's Hospital, and James G. Wakley of the London *Lancet*.

In France, Professor Paul Bert, the eminent physiologist, Dr. Le Grand Du Saulle, of La Salpêtrière, Dr. Brochfontaine of the Laboratory of the Faculty of Medicine of Paris, Dr. Arvedec De Chambre, editor of the *Gazette Hebdomadaire*, of Paris, are among the notable deaths.

In other continental countries of Europe, death has claimed among its victims Professor Theodore Friederick Von Frerichs of Berlin, Professor Von Gudden, whose lamentable death with King Ludwig of Bavaria is well remembered; Professor Auspitz, editor of the *Archives für Dermatologie und Syphilis*; Professor Hermann Maas of Würzburg, Professor Grobe of Greifswald, Professor Lushinger of Zurich, Professor A. Burckhardt-Merian of Basle, Professor C. G. Santesson of Stockholm, and, not the least, Professor Panum of Copenhagen.

The works of these great men are so numerous and so well known as need no mention here, even if space permitted but a partial recapitulation. Most of them are monuments to their memory, which are enduring, even after their authors have passed away.

THE ANNUAL REPORT OF THE ILLINOIS STATE BOARD OF HEALTH, of which a brief notice appears in another part of the JOURNAL AND EXAMINER, shows the good work that is being done by that board. Whatever misgivings there were in the minds of the medical profession of this state when the board was created, they must have been dispelled long

before this time, in view of the good work and constant progress made by it from year to year. Not only has the sanitary condition of the state been improved under the requirements of the board, but the status of the medical profession of the state has been elevated during that time, and not a small part of the credit for it is due that board for the work that it has done through the power vested in it under the *Medical Practice Act*. Other states have seen the beneficial results that have come from its acts, and have copied after it.

The work of compiling the names and standing of all of the medical colleges of the United States and of Canada, done by the board, is recognized as superior to anything of the kind accomplished in this country, and has called forth much praise for its thoroughness and evidence of its utility.

In the effort being made by the board to encourage more liberal education in the medical profession, and to gradually elevate the standard of requirement by medical colleges before conferring a degree which, in many cases, carries with it a right to claim a license to practice medicine in this state, and entitles the holder of it to practice without other permit in those states where other permits are not required, the board will have the approval and encouragement of the more intelligent part of the medical profession of this state and the respect of those in other states.

In view of its efficiency, its integrity, and the good work already accomplished, and still more that it is striving to accomplish, the legislature should be liberal in its appropriations for the carrying on of its work in the future.

Dr. N. S. Davis completed his three-score years and ten on the 8th of January, and in honor of the event a large number of his friends assembled at his residence on that occasion to

congratulate him, and to show their appreciation of the results of his long years of faithful and unselfish labor in the field of medicine.

Several addresses, appropriate to the occasion, were delivered, and he was the recipient of numerous handsome presents.

In replying to the addresses, Dr. Davis recalled the incidents of his early life; the struggles of the first years of his professional career, and the difficulties attending the organizing of the American Medical Association, of which he is conceded to be the father.

His triumphs over all obstacles teach a useful *lesson of life*, and show how much may be accomplished by one man where faithful and persistent effort is made to benefit his fellow man.

Beginning life amid obstacles that would have discouraged and deterred the average man from undertaking the task he assigned himself, he persevered until one by one they vanished before his tireless energy.

Having spent his earlier years in manual labor upon a farm, he worked his way into the medical profession, and, whilst advancing himself, he has done much to keep the medical profession of America advancing with him; and to-day, as President-Elect of the *Ninth International Medical Congress*, to be held in Washington in September of this year, he holds the highest post of honor in the medical profession of the world.

At home and abroad it is conceded that in conferring that honor on this veteran, it honored those who gave it as well as him who received it, and, best of all, who merited it; and the JOURNAL AND EXAMINER adds its congratulations to him who thus stands *primus inter pares*, and it reiterates the oft-expressed wish that he may long be spared to enjoy the just rewards of an honorable professional career.

FOREIGN CORRESPONDENCE.

SURGERY ON THE CONTINENT OF EUROPE.

To the Editor of THE CHICAGO MEDICAL JOURNAL AND EXAMINER :

Nine years ago I made a tour through Europe, mainly to collect such new ideas as I could obtain at the clinics in the different hospitals.

Lister was at that time still at Edinburgh, and I hurried there to study under the master himself what at that time was considered par excellence antiseptic surgery.

His germ theory of the contamination of surgical wounds was in such perfect accord with the preconceived notions of many German investigators, that I found at both Vienna and Berlin his modes of procedure, with all their paraphernalia, carried out. During a second tour of observation, after the lapse of less than a decennial, I find that the Lister spray is not generally employed, and has, in fact, been banished by the very man who first called it into requisition. After observing the methods of different European surgeons, each claiming that he takes full antiseptic precautions in operating, one is forced to the conclusion that the scientific world does not agree as to what constitutes antiseptic practice in surgery.

Bilroth in Vienna, and Bergmann in Berlin, for instance, take off their coats and vests, put on clean linen operating-gowns, scrub their hands with a brush and soap, and then wash them in a sublimate solution before touching the

patient. The surface to be operated upon is washed in the same manner, and shaved with a razor if the parts are covered with an abundant growth of hair. Bergmann is the most painstaking man I have seen operate, and his results are the best: that is, his wounds heal more uniformly without suppuration or constitutional reaction.

He condemns the use of instruments with horn handles, believing that it is difficult to render them aseptic. I had the good fortune to attend his clinic during the college vacation, when he was lecturing to and operating for the instruction of the army surgeons.

There is a feature about his operations that, in my opinion, plays a most important rôle, and that is the care with which he ligates every bleeding vessel, however small. For this purpose he uses only catgut, even to ligate the femoral artery.

For example, I have seen him operate many times for cancer of the breast in the female. He extends his incision from the inner and lower border of the breast as far as the level of the upper border of the axillary space, and thus opens up the entire axilla with one long, continuous incision, from which he not only removes the mamma but the entire chain of axillary glands. By this mode of operating he claims better results than are generally obtained. He claims that the glands in the armpit, although not apparently, are yet very generally affected, and that they should, consequently, be removed. In this operation I have seen him tie as many as sixty blood vessels, and never saw him ligate less than twenty-five. He never uses sponges, but in their stead employs a thin gauze disinfected with the bichloride of mercury. He uses a drainage tube only in cases of large sacks left after

an operation. He sprinkles iodoform over the edges of the wound, and covers the same with a thick layer of his gauze. Over this he places antiseptic cotton, and lastly bandages the parts firmly. If the patient has no constitutional reaction in the way of fever, he leaves this first dressing in place from three to five days. Erysipelas is an accident which he never seemed to fear, and I never saw a case in his wards.

Hospital Necker, Paris. Service of Professor Le Fort. November 12th, 1886.—The first case was a woman, 30 years of age, an employe in a match factory, suffering from a disease of the inferior maxilla, caused by phosphorus poisoning. Professor Le Fort removed without much difficulty a large sequestrum, scooped out the cavity with a sharp spoon, and then plugged it with iodoform gauze.

The next patient was a woman of 60 years of age, from whom Dr. Le Fort had removed the breast for cancer some years before, which had now reappeared in the old cicatrix. He spoke, before beginning to operate, of the danger of erysipelas after operations of this kind in women of this age, and of the necessity of using all necessary antiseptic precautions to prevent its occurrence; but he proceeded to operate after simply washing his hands in soap and water, using no brush and not cleaning his finger nails. He did not tie a single artery, using torsion to arrest the bleeding, and applied the thermo-cautery to such vessels as still bled after this procedure.

The third case was that of a workman, 23 years of age, who some months previously had severed the extensor tendon of the thumb at the middle of the metacarpal bone. The operation consisted in reopening the wound and uniting the severed ends of the tendon. Dr. Le Fort said that for-

merly such operations had failed, but that since the introduction of antiseptic surgery better results had been obtained. The patient was a little slow in pulling off his old dirty shoes after he had mounted upon the operating table, and Dr. Le Fort untied and pulled off the last shoe himself, and then proceeded to operate without washing or cleaning his hands in any way. The manner of uniting the two ends of the tendon was instructive. He used catgut and passed the needle through one tendon, tied his ligature so as to ligate about one third of its circumference, and then passed the needle through the other end of the tendon and tied that in the same manner. By this means the ligature was firmly attached to both ends of the tendon. He claimed that if one simply sutured the parts together as one would the edges of a wound in the skin, the direction of the fibers was such that the suture would not hold.

Professor Galezowski, whose eye clinic I consider one of the very best in Europe, is always talking about antisepsis. After his cataract operations he puts into the eye a gelatin disc impregnated with the bichloride of mercury, and then puts over the eye a compress of iodoform gauze. In his last 600 operations he has only had sloughing of the cornea in three cases. Yet he will examine and treat from twenty-five to fifty cases of disease of the external eye of every imaginable form, and proceed to operate after simply wiping his fingers on a towel wet in a solution of carbolic acid. Nothing suits a Frenchman better than an opportunity to hold a German up as an object of ridicule. Dr. Galezowski took occasion to gratify this taste one day by giving us a synopsis of the rules laid down at a late meeting of the Ophthalmological Society of Hamburg.

HOPITAL DE LA PITIÉ.

At this hospital I saw the most bungling laparotomy I ever have seen performed, excepting, perhaps, one ten years ago, performed by a gynæcologist who at that time, and even to-day, is recognized as one of the first authorities in England.

To see what a perfect failure two such great authors on the subject of diseases of women are, when they attempt to do an ovariectomy, has led me to the conclusion that there is an especial skill required for the performance of this operation which a few men possess, and many cannot acquire. This man's idea of antisepsis was evidently the use of the spray, for while the room was so full of the vapor of carbolic acid that one could hardly breathe, one of his assistants had just finished dressing a woman's leg affected with acute phlegmasia dolens, and went directly from that case to the operating room without changing his clothing. The man who handed the instruments had dirt under his finger nails, and the numerous assistants who attended to the sponges, did not wash their hands after coming into the operating room. The cyst was one of the broad ligament, it had a great many attachments, and the operation was a difficult one. The patient died twenty-four hours after the operation, but whether from carbolic-acid poisoning or from the operation itself I was unable to settle in my own mind.

I attended A. Martin's vacation course for physicians at Berlin, and will give a brief résumé of his idea of antisepsis.

The room where he operates is impregnated the evening before the operation with a ten per centum spray of carbolic acid, and then closed up tightly for the night. In the morning before the operation, he, his two assistants and the nurse,

each take a bath and put on entirely clean clothing. Every one of his class who is to witness the operation is required to take a full bath just previous to entering the room as well as to change his clothing throughout.

Those who touch his instruments, that is, his nurse and one assistant, are required to wash their hands thoroughly in a solution of bichloride of mercury.

Martin operates with a rapidity that is wonderful. I have seen him remove an ovarian cyst and close the wound in seven minutes, and have frequently seen him do the operation inside of ten minutes. He considers dispatch a prime element of success, and thinks that Lawson Tait's idea of a small abdominal incision is an erroneous one.

He thinks that too many assistants are bad and tells of performing an ovariectomy entirely unassisted, those he depended upon being taken with a fainting fit and hence unable to perform their duty.

Professor Verneuil still continues to teach at La Pitié and is as full of vigor and energy as he was when I first heard him twenty years ago. My time has been so much occupied in other directions that I have not been able to follow him regularly. He has, however, a hobby which he is riding just now, and that is, the discussion of glandular tumors by the interstitial injection of a ten per centum solution of iodoform in ether. His results are apparently very good.

Hôpital Saint Louis contains 1,043 beds, 625 of which are devoted to diseases of the skin. Under the management and teaching of Professor Fournier, it is one of the best places in Europe to study this branch of medicine.

M. Péan is the surgeon in chief of this hospital, where more than 2,000 cases of a surgical character are annually

treated. He is a bold and rapid operator and a fine teacher. He talks as every one else does of antiseptis, although he wears each day the same old black swallow-tailed coat during his operations, upon which the accumulation of blood-spots date back many months. He always washes his hands between each operation in soap suds, but not carefully, from a German standpoint. In his ovariectomies he is more careful, disinfecting his hands, sponges and instruments with the bichloride of mercury.

Among the first patients I saw Pean operate on this winter was a man 36 years of age, who had an attack of pleurisy two years before. The pleural cavity on the left side secreted a large amount of fluid, which was removed two or three times by the aspirator.

Some eight months ago a complication occurred which Pean remarked was very unusual, and that was an artificial opening was established between the ninth and tenth ribs on a line with the nipple, from which pus flowed nearly constantly, but not sufficiently to keep the pus-sac empty. To establish perfect drainage, Péan resected a portion of the seventh, eighth and ninth ribs, and when he had thus laid bare the pleural sac, he opened the same widely with the thermo-cautery, and evacuated three litres of pus.

About the time the pus ceased to flow the patient ceased to breathe and died on the table in spite of every effort to resuscitate him. Pean attributed the death of this patient, not to the anæsthetic, but to the sudden movement of the heart toward its natural position from which it had been displaced toward the right by the fluid. This is the only place where I have seen used the apparatus of the late lamented Paul Bert for the administration of chloroform. Its inventor

claimed that by its use atmospheric air and the vapor of chloroform were mixed in such a proportion, always definite and the same, as to render the use of this most valuable anæsthetic perfectly and absolutely safe. The instrument is an expensive and complicated one and has not been generally adopted even here in Paris.

This is the fourth patient I have seen die on the operating table under chloroform since I came to Europe. Of this number one occurred in the service of an interne at Vienna, in the operating room of Professor Albert.

The patient was a young woman 23 years of age, apparently in perfect health, and was being operated upon for the removal of a lymphoma the size of a small hen's egg situated at the outer angle of the inferior maxillary bone.

Not more than two or three drachms of chloroform had been given when the patient ceased to breathe, and no amount of artificial respiration would resuscitate her. A careful post-mortem failed to give any explanation of the cause of death, as the heart was normal and no air had gained access to the circulation.

I saw two other patients come near dying, one being operated on by Schroeder and the other by Bergmann.

Shroeder, by the way, always has a battery at hand and ready for use in such an emergency.

In Bergmann's case he executed a little maneuver that he places great stress upon; and that is, while his assistants execute rapidly the movements necessary for artificial respiration he introduces his finger into the mouth and holds up the epiglottis. He claims that this organ will often close down firmly and that manipulations are of no use unless one operates in this manner.

December 11th, 1886. The first patient to-day was a woman 33 years of age, married, but had never borne children.

She had suffered severely from dysmenorrhœa since the first appearance of her menses at the age of eighteen. Lately she had not only suffered at her menstrual periods, but was confined to the bed for a large part of every month with excruciating pains through her pelvis, mostly on each side running in the direction of the broad ligaments.

Frequent attacks of an hysterical character accompanied these symptoms.

Physical examination failed to indicate any pathological change on the part of the pelvic organs. Péan is fond of talking, and this patient furnished him a text for a long discourse on the subject of the castration of the female for nervous disturbances as practiced by Hegar, Battey and others.

He said that he had practiced the removal of the ovaries frequently in this class of cases, but had usually found the proceeding of little or no benefit. He said that the relation which the tubes and ovaries bear to these manifold nervous manifestations might be problematic, but that they sustained an intimate relation to the womb itself, was an unquestionable fact. Therefore he thinks that the more rational practice is the total extirpation of the womb.

This operation he proceeded to perform in a manner different from that practiced by Karl Braun and Martin.

Beginning at the posterior vagino-cervical junction, keeping close to the uterine tissue, he cut with the scissors until he had opened into the peritoneal cavity through the cul-de-sac of Douglas.

To prevent and arrest hæmorrhage he applied his hæmostatic forceps in such a manner as to completely include the free margin of the incision he had made.

He now began the same dissection anteriorly separating the uterus from the bladder until he had opened into the peritoneal cavity.

He next introduced the index finger into the lower opening and brought it out at the upper one, and thus held the broad ligament of one side within his grasp. This he clamped by passing a long-bladed hæmostatic forceps from above downward and another from below upward, and thus having all the tissues of this membrane compressed, he divided the same close to the womb. Each broad ligament was treated in the same manner.

When the operation was completed, there were eleven pairs of forceps projecting from the vagina which he said he should leave in place, the smaller ones 24 hours, and the larger ones 48 hours. The vaginal cavity was washed out with a bichloride solution, tamponed with iodoform gauze, and the patient put to bed. Very little blood was lost.

The womb was cut open and showed only a slight endometritis of the body. I took pains to look after this patient, as to the outcome, and as far as the operation was concerned she made a rapid recovery with very little constitutional disturbance, but as to the relief of the symptoms for which this desperate operation was done enough time has not yet elapsed to determine that most important question.

During the last meeting of the North-German Society of Physicians at Berlin I attended pretty regularly the section devoted to gynæcology.

The subject of the removal of the ovaries for the relief of

nervous disturbances in women was freely discussed at one of these meetings.

Hegar, Schroyder, Veit, Sanger, Gusserow and others took part in the discussion and the sentiments expressed were generally of the most conservative character. The conclusion was general that the operation in the past had been too frequently performed; that healthy ovaries ought not to be removed, and that the operation was unjustifiable in cases where the nervous phenomena produced little or no effect upon the general health of the patient. In fact the operation should be limited to those cases where life is in jeopardy.

December 18th, 1886. The first case before us to-day was a girl, 17 years of age, brought here from one of the provinces. Eight years ago her parents noticed a small tumor just beneath the right ear. It increased in size until at the present date it is seven inches long and four inches wide and firmly attached, and seemed to take its origin from the side of the cervical vertebra.

Pean remarked before beginning to operate that this was one of the most difficult operations in surgery, as the tumor involved some of the most important organs in the body. He says never attempt to enucleate a tumor like this situated in this position. Open it up from the surface and cut straight through the mass from above downward until the base is reached. This can be done without hesitation as one never finds important vessels or nerves in the body of the tumor itself. When the bottom of the mass is reached one may find it loose and easily detached. If it is firmly adherent to important tissues, cut it away piece-meal as far as possible, and leave the balance to slough away, which it will do after

being isolated from the surrounding parts. This formidable mass, however, he succeeded in removing entirely.

OPERATION FOR STONE.

Pean, like Bergmann and Guyon, performs the suprapubic section. Every teacher and operator I have seen in Europe discards the perineal section. Crushing small calculi and removing larger ones by the high operation seems to be almost a universal rule at the present time.

Professor Lannelogne in his lectures at the School of Medicine treated, for the first part of the session, of injuries and diseases of the head, spine and neck.

For injuries of the skull he still adheres mainly to the use of the trephine, claiming that when the operation is performed antiseptically it gives good results. On the other hand Bergmann has abandoned this instrument, and in a late number of Volkmann's *Vorträge* he takes occasion to discuss this subject in a most thorough manner, showing that by substituting the hammer and chisel, immensely better results are obtained.

In speaking of Pott's disease of the spine Professor Lannelogne says that the microscope has settled the question as to its tuberculous origin.

As to the plaster-of-Paris jacket of Sayre, he says that the idea of keeping the two diseased surfaces separated by this appliance is irrational and impracticable. He puts his patient in a horizontal position and keeps him there for months together, taking him in the open air as much as possible to preserve the general health. He says when one has a psoas abscess as the result of this disease never aspirate it. Open it up freely, curette carefully as much of the sac as one can, and then inject with iodoform in weak solution to cleanse the pus-

cavity. I have seen, by the way, a long-handled wooden spoon used for this purpose.

The Hôpital des Enfants Malades contains 600 beds. M. de Saint Germain is the surgeon-in-chief to this institution. In his rough manner of operating and dealing with the poor unfortunates who are under his charge he puts one in mind of the model surgeon of a century ago. He always chloroforms his patient himself. In doing this he pours about three drachms of chloroform on a towel, three or four double, claps it over the face of the child, and, despite its cries and struggles, allows it no air except what it can get through the meshes of this cloth. His patient is completely insensible in one minute. He claims this to be the safer mode of giving chloroform, as less of the drug is required to produce anæsthesia. His surgery, like his administration of chloroform, is rapid and rough. Chronic enlargement of the tonsils he treats with the thermo-cautery. He uses a small point which has a direction of a right angle to the main handle, and this he introduces at two points into the tumor. Usually two sittings cure the patient. In older children, where the tonsil has become much indurated, he incises the organ with the knife.

The tonsillitome he says is an instrument designed for a physician but not for a surgeon. In the treatment of large *nævi*, after injecting the center of the mass with the solution of iron, he destroys the small points that are generally left around the margin with the actual cautery. He has had, he says, two deaths occur in his practice from the injection of the iron solution, and since then practices great care in the use of a ring around the border of the mass which he presses down firmly during the operation and for a little time afterwards.

Phimosis he treats by dilating the prepuce instead of by circumcision.

For this operation he uses a pair of pointed forceps which he introduces as far as the meatus and then spreads it until he can pass the gland through the opening. The operation is followed by less irritation than circumcision and the results seem to be good.

He is not a friend of the Jewish idea of the superfluity of the foreskin; in fact, he says that when you cut it away you have in a manner deformed the patient and deprived him of a tissue which he believes to contribute to the perfect healthiness of this most important gland.

W. S. CALDWELL.

PARIS, December 28th, 1886.

SOCIETY REPORTS.

THE CHICAGO SOCIETY OF OPHTHALMOLOGY AND OTOTOLOGY met December 14th, at the Tremont House. The President, E. L. HOLMES, M.D., in the chair.

Drs. Gardiner, Holmes and Colburn were appointed a committee on membership.

The following paper was read by LYMAN WARE, M.D.:

ON LUPUS VULGARIS.

History.—This is no new disease; but on account of its frequent occurrence, and, until the past few years, its almost incurability, I beg to call the attention of the society to a few cases which have come under my observation. Before referring to the history of these cases, or submitting to your examination two or three patients who have consented to appear before you, I would, in a few words, recall to your minds some notable features of this disease. There is no doubt

that it was generally recognized at least 5,000 years ago, and designated "Lupus." That it may have been confounded by ancient writers, in many cases, with carcinoma is highly probable. Willan was the first to apply the term lupus exclusively to certain forms of ulceration about the face, while Bateman made no actual distinction between the effects and course of carcinoma and lupus, except that he considered the latter curable by arsenic, the former not.

Symptomatology.—Lupus varies much in appearance, according to the age of the patient, constitution, state of health, kind of diet, and the part affected. At first it appears in the form of tubercles, either isolated or in groups, which may be deeply imbedded in the true skin, beneath it, or quite superficial, and always spreads by infecting the adjacent skin. It is never congenital, though it may appear early in life. Unchecked by treatment it increases more or less steadily for many years. At times the disease may appear checked for years, when it will again break out with renewed vigor. In old age the severity of the disease is often diminished. Lupoid tubercles may terminate in involution, leaving the skin atrophied and glistening like a scar, or in disintegration and ulceration. It occurs upon any portion of the body, most frequently, by far, upon the face. The cases which have come under my observation originated on the lower eyelid, extending gradually to the eye and nose. Lupus of the ala nasi and the tip of the nose assumes the disseminate form. The tubercles are prominent, and coalescing form large, irregular protuberances. Lupus on the lower lid produces first complete ectropion, in consequence of cicatricial contraction of the skin, then gradually extends to the palpebral conjunctiva, the ocular

and deeper tissues of the eye, involving, at last, the entire orbit. As the disease involves the conjunctiva it imparts to it a dark, reddish-brown color, and is decidedly trachomatous in appearance. Later, it becomes smooth, glistening and atrophied.

Etiology.—Many theories have been advanced respecting the cause of lupus. Both ancient and modern writers refer it to scrofula or syphilis. Although the terms scrofula and scrofulous have been used for ages, by physicians as well as laymen, throughout the entire world, it must be confessed we have no very clear idea as to what scrofula is, or to what exact condition scrofulous should be applied. In my younger days I was taught that scrofula, being a literal translation of the Latin *scrofa*, swine, was a disease common, to those who eat pork. I have since thought that such an explanation was unfounded, and that the term “scrofula” originated in the fact that the sub-maxillary furrow, which does not exist in well-fed swine, was obliterated by glandular enlargement. Some who hesitate to use the word scrofula, designate exactly the same condition by the term “struma,” or “strumous diathesis.”

Although we may not be able to define clearly the term “scrofula,” or “struma,” yet in a case of indolent swelling of the lymphatic glands, large lips, flabby, soft muscles, with a feeble constitution, and where the slightest irritation produced chronic inflammation, followed by suppuration, we would not hesitate to designate such a condition a scrofulous or strumous. In most of the cases that came under my observation such a condition was not present, nor was there any history of syphilis. Some writers, though not considering lupus a syphilitic disease, think it shows a syphilitic

taint; yet I was not able to discover a single symptom that pointed toward hereditary syphilis. The patients generally were in excellent health, appetite and digestion good. The more I compare the two diseases the less resemblance I find. Lupus is an exceedingly chronic, indolent disease, arising from small tubercles imbedded in the substance of the skin, does not become rapidly worse, may persist for years without producing constitutional disturbance, and is wholly unaffected by anti-syphilitic treatment. It is also essentially a disease of early life, seldom making its appearance before the third year, and hardly ever after the twentieth or twenty-fifth. When it appears later it will generally be found to be a recurrence, and not a primary attack. The treatment of lupus rather indicates that it may be allied to the malignant diseases, a connecting link, as it were, between the non-malignant and malignant.

Volkman has recently laid great stress upon the fact that every portion of the diseased tissue should be most thoroughly eradicated by the scoop: and the same thing has been taught and attempted for many years by means of the knife, the caustic, or the galvano-cautery. It has long been insisted that whatever method be adopted, it must be thoroughly and unflinchingly carried out, and repeated from time to time, if necessary, according to the exigencies of the case, or its tendency to relapse. Most authors have considered it necessary to treat the disease locally—some by constitutional remedies only. In the cases reported I have tried each method separately, then unitedly, and I have no hesitancy in saying that when the local treatment was combined with proper internal medication, the advance toward recovery was much more rapid and more satisfactory than when one

method only was followed. The internal treatment consisted principally of tonics, as quinia, iron, strychnia, phosphates, and particularly arsenic, either in the form of arsenious acid or Fowler's solution, and special attention to a plain, nutritious diet, and out-door life. The local treatment consisted in the complete destruction of the existing lupoid tubercles, in whatever state of development, by means first of the scoop or Valkmann's curette, then by a thorough and prolonged application of pyrogallic acid in crystals. In some cases, after removing the superficial layer, consisting of morbid products, scales, secretions, etc., a pledget of absorbent cotton was saturated in a 4 per centum solution of cocaine, and firmly held on the diseased tissue. In other cases, where the lupoid tubercles were deeply imbedded, or where the disease was at all extensive, general anæsthesia was first induced. The patients never complained so much of the acid application as of the cutting or scooping out of the lupoid mass. The pyrogallic acid uniting with the blood and lupoid tubercles produces a thick, brownish, syrupy substance, and as long as this is produced the acid should be applied. Jarisch, of Vienna, was the first to call the attention of the medical profession to the local use of pyrogallic acid, though it had long been used in the arts, particularly in photography. Dr. A. Vesey (Dublin Jour. Med. Sci. 1878), nine or ten years since, observing its remarkable astringent effect on the hands of those engaged in photography, was led to employ it in internal hemorrhage, and especially in the hæmoptysis of phthisis, in which he found it very efficient, in grain doses, frequently repeated (every hour or oftener). Jarisch first used it in the form of a ten-per-centum ointment, with vasaline. Besnier,

of Paris, makes use of a saturated solution of the acid in ether; applies it with a camel's-hair pencil to the diseased portion, and at once covers this with a layer of traumaticine. These applications are repeated until the disease is thoroughly eradicated.

Schwimmer, of Budapest, after destroying the lupoid tubercles, by means of the ten-per-centum ointment already mentioned, prevents a return of tubercles in the cicatrix, which is of frequent occurrence, by the application of mercurial plaster. In some few cases where pyrogallic acid has been used extensively, and long continued, poisoning has resulted; but where its use is restricted to the removal, either of lupus or epithelioma, it is not at all likely to be complicated by any such unpleasant results. In cases of poisoning the kidneys are first affected, prostration and febrile disturbances appear, the urine becomes brownish or olive green in consequence of hæmoglobinuria, the skin tinged with green, and a glairy mucus is vomited. Dr. Charles W. Allen, of New York, has reported a number of cases of lupus treated by pyrogallic acid, and has expressed himself as much pleased with its effect. He made use of both the powder and ointments of varying strength, made with vasealine. He considers the acid of great value, because it specially attacks the lupoid tubercles, induces destructive ulceration in and about them, leaving the healthy tissue unchanged. In any preparation of pyrogallic acid care must be exercised not to combine it with an alkali, which would neutralize it, nor with a metal, which it would reduce. Six cases have been treated, but in case No. 1 iodoform, in powder, was used instead of pyrogallic acid.

Jas. M., æt. 45 years, was first attacked twenty years

since, while in the U. S. army. The disease made its appearance at the inner canthus of the right eye. He attributed it to an injury received while riding under a tree, and being struck by an overhanging limb. The disease gradually extended to the under eyelid, involved a portion of the upper, encroached upon the cheek, and finally the deeper tissues of the eye itself. The patient was given ether, and the diseased mass thoroughly removed by means of the curette, and the wound dressed with powdered iodoform. Two weeks subsequently a few lupoid tubercles again made their appearance at the inner canthus, but were easily removed by the curette without anæsthesia. The patient made a rapid recovery, and remained under observation about six months, and no relapse occurred. He assured me, on leaving, that should there be a return of the disease he would let me know. He was placed, from the first, upon Fowler's solution of arsenic, and advised to continue its use, for at least six months. The photographs which I show give a good idea of the appearance of the case before and after treatment.

CASE II. F. W., æt. 50, residence 44 Desplaines street, Chicago, stonecutter. Twenty years since a small tubercle, about the size of a pea, made its appearance upon the left ala nasi. It slowly increased, until it attained the size of a large bean, ulcerating and extending at its edges. A few years later lupoid tubercles appeared at the inner canthus of the left eye, and gradually extended to the lower lid. Mr. W. had submitted to a great variety of treatment, which had only partially kept the disease in check. When he came under observation the protuberance on the ala nasi was, at least, the size of a large lima bean, dark red, and ulcerated

at the edges. The ulceration at the inner canthus occupied an irregular space, about the size of a 10-cent piece. Although there was at least an inch of perfectly healthy skin and tissue intervening between the two, the patient was confident there was some connection between them. When the ulcer of the nose was red and painful, that of the eye was also worse. As the patient had considerable fortitude the lupoid tubercles of both nose and eye were thoroughly curetted, without the aid of ether, and the pyrogallic acid applied until the brownish, syrupy substance ceased to form. The history of this case differed somewhat from the others. in this respect: that for years there had been more or less pain. In fact, of late the pain had been so great that it was impossible for him to work at his trade, or sleep, sometimes for several nights in succession. The operation relieved him completely of the pain, and he was able to sleep, and returned at once to his work. Several operations have been necessary, but he has been able to sleep regularly and work constantly, and at the present time appears to be completely cured.

CASE III.—Minnie, æt. 16. The lupoid ulceration first began when she was twelve years of age, unaccompanied by any pain. When she first came under treatment the entire upper and lower lids, and about one-third of the adjacent cheek, were involved. Ether was administered, the entire ulcerated surface was curetted, and the acid applied. This case, being at the Illinois Charitable Eye and Ear Infirmary, and my term of service about expiring, came under the charge of my colleague, Dr. Gardiner, who continued the same course of treatment. After remaining a month or two in the institution, and no indication of the disease reappearing, she was allowed to return to her home. Six months have now elapsed, and there

has been no return of the disease; but as there is slight ectropium of the lower lid, in consequence of the deep ulceration, a plastic operation will be necessary to restore it to its normal condition. In all cases of lupus about the eye I have considered it prudent to protect the cornea from the action of the acid by means of a thick layer of absorbent cotton. I have now used the pyrogallic acid in five cases, and in three or four very extensively and freely, yet in no case have I seen any symptoms which would indicate poisoning.

THE SUBJOINED REPORT OF A CASE OF "RECURRENT HEMORRHAGE INTO THE ANTERIOR CHAMBER," WAS READ BY BOERNE BETTMAN, M.D.

Cases of concussion of the eyeball, with subsequent hemorrhage into the anterior chamber, are not uncommon. Such occurrences are frequently noted down in our journals, and are alluded to in our text-books as uninteresting matter of fact. The case I wish to bring to the society's notice to night differs so much from the ordinary ones that its presentation need not be prefaced with an excuse.

On the 19th of May, 1886, Mr. and Mrs. W. hurriedly entered my office with their little daughter Ettie, aged four. They informed me that the child, whilst playing "Indians" with her comrades, was struck in the left eye, by a projectile propelled from a toy gun in the hands of a boy. The projectile was a twig of a tree. The end was apparently smooth, to judge from the appearance of the contused lid. The stick could not be found. The propelling force was a broad band of rubber, kept tense by a wooden trigger. The gun was within a few feet of the child when the accident occurred, three-quarters of an hour before I saw the patient. On examination I found the following condition: The upper right lid was œdematous and

reddened. On lifting the latter, the eye was found bathed in tears, and the conjunctiva slightly injected; cornea normal. The whole anterior chamber was filled with blood. In the lower part it formed a large clot, hiding the iris from view. The pupil was dilated and elongated in the vertical diameter. An ophthalmoscopic examination could not be made. The child was unable to count fingers close to the eye. I ordered cold compresses and instillation of two drops, every few hours, of a one-per-centum solution of atropine. When I again saw the child, about three hours later, the pupil was dilated ad maximum, and the greater part of the hemorrhage was absorbed. Fingers were readily counted. On the morning of the 20th but a small clot of blood remained, in the lower part of the anterior chamber. At the next visit, May 21, I learned from the mother that the patient had passed a very restless night, occasioned by spells of sudden, intense pain. The first attack occurred in the evening. During a momentary absence of the parent the child left its bed and ran to the window, which it opened. Hearing its mother return it hastily essayed to regain its bed, but stumbled and fell heavily to the floor. The fall was followed by severe pain in the injured eye. A second attack took place at midnight, and a third early in the morning. I found the eye in a glaucomatous state. Tension 11, very marked ciliary injection, anterior chamber full of blood. The eye was rebandaged, and cold applications applied over the roller. A one-per-centum solution of eserine was prescribed, two drops to be instilled into the eye five times a day. The child was kept quiet in bed. In the evening I found a great improvement. Tension reduced, but still higher than normal. Hemorrhage mostly absorbed. At midnight the child was again awakened by the excruciating pain in the left eye. The morning showed a return of yesterday's condition:

extensive hemorrhage and increased tension. These sudden attacks of severe pain came on without any apparent restlessness on the part of the child. Whilst in the midst of a sound sleep it would be suddenly awakened by the darting pains. I hesitated to reinsert the eserine, thinking that the action of the drug favored a separation of the partly healed iris, which I supposed had been lacerated at the lower border, covered by the blood-clot. The child had been kept quiet in bed. Both eyes were bandaged, for a time; the right one constantly. Coffee and other stimulants were forbidden. In fact, everything had been done to favor a rapid union of the parts. I decided to try the effects of ergot, and ordered the fluid extract to be given, in twelve-drop doses every three hours, in order to reduce the action of the heart, and permit a sufficiently firm organization of the blood-clots in the lacerated blood-vessels. The introduction of this remedy was soon followed by good effects. The blood disappeared entirely. The pupil remained for a time elongated, but later on resumed its normal shape.

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.

Regular Meeting, Friday, December 17th, 1886.

I.—Presentation of Specimens.

II.—ETHERIDGE. A Case of Anterior Vaginal Enterocoele.

III.—SÄNGER. Etiology, Pathology, and Classification of Salpingitis.

IV.—WESTON. Metritis.

The PRESIDENT, CHARLES WARRINGTON EARLE, M.D., in the Chair.

I. PRESENTATION OF SPECIMENS.

DR. HENRY T. BYFORD exhibited the following specimens:

I. PROLIFERATING OVARIAN CYSTOMA.

This specimen, removed three weeks ago by Dr. William H. Byford, at the Woman's Hospital, is interesting in being a large ovarian

cystoma, composed of an immense number of small cysts. Extremely formidable in appearance—resembling a malignant growth—it has pursued an exceedingly benign course. Adhesions were few and easily severed. The subsequent recovery was typical, one dose of morphine constituting the entire medication.

2. PAROVARIAN CYST AND APPENDAGES, COMPLICATED BY A UTERINE FIBROID.

This cyst, which was about the size of the head of a child two years old, developed between the layers of the broad ligament in a direction away from the uterus, lifting up the Fallopian tube, ovary and infundibulo-pelvic ligament. The tube is straightened and hypertrophied, admitting the finger for an inch into the fimbriated extremity, and the infundibulo-pelvic ligament is separated from its ordinary pelvic wall attachment by a larger portion of the tumor, over and under which the peritoneum passes to form, with the ovarian ligament and uterine end of the Fallopian tube, the pedicle. Had there been no pedicle, or had it been desirable to leave the ovaries, the inner coating of the cyst could have been taken out of the serous investment in about two minutes, without violence or hemorrhage. You will observe that I separate them now almost as easily as if they were wet pieces of linen lying in apposition. The ovary is slightly hypertrophied. On account of the presence of a uterine fibroid tumor, the size of an orange, the other healthy ovary and tube were removed. Three transparent cysts, about the size of beans, and feeling as hard as bone or wood are, as you see, hanging by long pedicles from the meso-salpinx. The ovarian artery runs over the tumor and under the tube, is elongated and four or five times its normal thickness. Here is also the left tube. It is congested, but neither it nor the artery is appreciably enlarged. The ovary is large but not pathological.

3. OVARIAN CYST IN THE BROAD LIGAMENT CONTAINING THE DEGENERATED OVARY.

This tumor, which I removed by enucleation and which was the size of a pregnant uterus in the sixth month, is interesting by comparison with the other, and also as illustrating the dangers of tapping. It evidently developed from the surface of the ovary between the layers of the broad ligament towards the uterus. The remainder of the ovary has developed into a multilocular cystoma the size and shape of a large orange, and projects into the large cyst. The firmness

of the adhesions of this inner coat of the tumor to its peritoneal covering, as compared with the smaller cyst just shown, suggests that small tumors are more easily enucleated than large ones, and constitutes an argument in favor of earlier operations. The horn of the uterus with the Fallopian tube was hypertrophied and drawn up over the anterior surface of the tumor, so that when exposed during the operation it looked like a pregnant uterus with a large vein running over it, diagonally across the incision. Had the tumor been tapped in the ordinary place, trouble must have resulted, and the operation which, after the stripping off of this hypertrophied and congested uterine tissue from the tumor, was easily and rapidly completed, would have been complicated. The uterus in a few weeks was apparently normal in size, position and mobility. It is interesting to note that the tumor was mistaken for advanced pregnancy, about a year ago, by one of our most prominent general practitioners.

4. SUPPURATING OVARIAN ADENOMA, WITH UTERUS.—AUTOPSY.

This tumor, which was examined for me by Dr. F. S. Johnson, is an ovarian adenoma of the same histological nature as the first specimen shown, but presents a striking contrast by malignant course and small size, as the whole was scarcely larger than a child's head. An ovarian tumor was removed from the opposite side by Dr. William H. Byford several years ago. As this was not a malignant growth, although practically pursuing the course of one, an attempt was also made by him to remove this, or at least cure the discharging abscess that surrounded it, about five months before the patient's death, but it was, from the nature of the case, only partially successful. In attempting its removal after death, I was almost equally unsuccessful, for it was surrounded and intermingled with pus cavities and intestinal loops, and had destroyed and occupied the place of all the pelvic tissues except the rectum, bladder and uterus with the right round ligament which you see hanging to it. The cul-de-sac was full of it, the posterior uterine surface inseparable from it, the right broad ligament supplanted by it, and the contents of the left broad ligament an agglomerated mass of inflammatory tissue. A blue walled abscess about the size of, and extending along the course of, the ascending colon, had secured an outlet just below the border of the ribs. Another abscess opening just below and to the

right of the umbilicus gave exit to pus, feces and a semi-transparent, jelly-like ovarian fluid. The right ureter was dilated and hypertrophied. The pelvis of the kidney must also have been dilated, although that being left to be examined last,* was finally forgotten. The lower three feet of the ileum were compressed and atrophied to the size of a small lead pencil. Just above it ran a fibrous tube of the usual size of the ileum, straight from the cæcum to the lower opening in the skin. The uterus, which previous to the removal of the first tumor, had developed two healthy children, was of rather small size, in a normal position and healthy, excepting a moderate laceration of the cervix and a slight degree of injection of the mucous membrane about the os.

5. FIBRO-SARCOMA OF THE LEFT HORN OF THE UTERUS, LUNGS, PLEURA, PERICARDIUM, RECTUM, TRANSVERSE AND DESCENDING COLON AND ABDOMINAL PARIETES.

About a quart of serum was found in the right pleural cavity. Several round, fibro-sarcomatous tumors, the size of nuts, and several indefinite spots of contracted fibrous tissue, were found in the lungs, suspending their expansibility except over a few small areas. The two which I hold in my hand were torn from the lungs; one from the center of the apex and the other from the pleura at the base. A fibro-sarcoma the size of a goose's egg which is, as you see, still attached to the left pleura, was also attached to the pericardium. The heart weighed $8\frac{3}{4}$ ounces, was drawn to the left by the contracted lung (which had but little fluid about it) and contained an ante-mortem clot. The liver was enlarged and mottled. The stomach lay entirely to the left side, in front of the compressed and atrophied spleen, with the pyloric orifice suspended vertically under the cardiac orifice, and not reaching as far to the right as to the median line. The transverse and descending meso-colon was strung with these fibro-sarcomatous masses, the size of hazel nuts, and the rectum covered with the same of a little larger size. A few were also found on the peritoneal surface of the abdominal parietes. The uterine tumor weighed twenty ounces, and, like all of the specimens, cannot be distinguished from fibroid or fibrous tumors by the eye, except over a limited area upon the anterior surface, where it has softened and degenerated into the round celled variety. The

* The autopsy was performed in the midnight before the burial, and in a small town, in a cold room and without conveniences.

fact that the patient was twice tapped by physicians for ovarian cystoma makes it seem probable to me that this change has been produced by the introduction of the trocar, and that the little tumors on the abdominal parietes were due to the adhesions forming afterwards. The fluid obtained then was probably peritoneal which, to the amount of about eight pints, had again accumulated. It was dark green in color. Abdominal enlargement was noticed several years ago. An operation had been advised two years ago. Dr. F. S. Johnson examined the specimens, with the result mentioned, and but for an attack of sickness would have reported upon them in person.

DR. W. W. JAGGARD exhibited the following specimens:

1. UNILOCULAR CYST OF RIGHT OVARY, THE REMAINING OVARIAN TISSUE SHOWING CORPUS LUTEUM OF MENSTRUATION.

He had recently removed the tumor, and the patient had made an excellent recovery. Menstruation ceased three days before the operation. The specimen was interesting, though not exceptional, in showing the persistence of functional activity in such an extensively diseased organ. The left ovary was normal, and was not removed.

2. A PLACENTA, SHOWING VELAMENTOUS INSERTION OF THE UMBILICAL CORD, AND REMAINS OF AN EXTENSIVE HÆMORRHAGE INTO THE PARENCHYMA OF THE ORGAN.

The term *insertio velamentosa* means a separation of the three vessels of the cord before they reach the placenta. The vessels pursue a straggling course between chorion and amnion, for a variable distance, and each one reaches the placental margin by itself.

According to B. Schultze (*Jenaische Z. f. med. u Naturw*, 1867 Heft. 2 and 3) the origin of velamentous insertion of the umbilical cord is as follows: The allantois carries the foetal vessels to the periphery of the egg, entirely irrespective of the future placental site. Indeed, it is comparatively seldom that the future placental site is immediately reached. The vessels penetrate all the chorionic villi indiscriminately. These vessels are subsequently obliterated in the chorionic villi, not destined to form the placenta, and vascular connection only remains with that portion of the chorionic villi, corresponding to the *decidua serotina*. With the further growth of the egg, under normal conditions,—it makes no difference

what point in the egg periphery the allantois originally touched,—as the amniotic sheath forms around the rudimentary cord, the fœtus performs a movement of rotation, so that the vessels pursue a straight course to the placenta. Now this movement of rotation may be hindered, and the formation of a complete sheath prevented by anomalous adhesions. The hindrance is adhesions of the umbilical vesicle, the ductus, or the vessels to the amnion or chorion. In such cases, if the growth of the ductus does not keep equal pace with that of the amnion, a complete sheath cannot be formed, and the amnions forsake the vessels before they reach the placental edge. Velamentous insertion of the cord can occur at the pole of the egg opposite to the placenta or at any intermediate point. The anomaly is observed most frequently in cases of multiple pregnancy.

Velamentous insertion of the umbilical cord seldom leads directly to interference with the development of the fœtus. In labor, however, the vessels may be compressed between the presenting part and the parturient passage, and the child may be asphyxiated, or, with the rupture of the bag of waters, a vessel may be torn and the child's life endangered by loss of blood. In general terms, the clinical picture bears a great resemblance to *placenta prævia*.

In the specimen presented, the cord is inserted into the chorion about five centimeters from the placental edge. The anomaly was not recognized until near the conclusion of the first stage of labor. A large vessel was torn at the same time with the spontaneous rupture of the bag of waters, and the life of the child was seriously jeopardized by the loss of blood.

The child, though probably mature in point of age, was small and feeble; weight, 2,700 grams, length 47 centimeters. The failure in development could be ascribed to the large hæmatoma and numerous hæmorrhagic infarctions in the *placenta fœtalis*. The mother of the child was threatened with abortion, and suffered from uterine hæmorrhage when she was in the sixth month of pregnancy. The child, at the time of presentation of specimen, was living.

THE PRESIDENT exhibited the ileum, removed from a child 22 months old, who died of typhoid fever, in which the characteristic lesions of the disease could be seen.

The child had continued fever for five weeks, the temperature reaching 105° F. part of the time, rose-colored spots in the third week, intestinal hæmorrhage, tympanites, and delirium.

The case is remarkable on account of the age of the patient, as many authorities deny the existence of genuine typhoid in children.

Stewart (1841) describes infantile remittent fever in which the bowels are sometimes relaxed, occasional delirium, followed by a low, quiet state. Evidently he did not recognize typhoid as occurring in children.

Condie (1853) says, "It is much more than probable that typhoid will be found to be a much more frequent disease among children than has heretofore been supposed."

Bedford (1856) does not speak of typhoid.

Hillier (1868) says, "Typhoid is not infrequent in children. Many cases of infantile and gastric fever belong to this class."

Meigs and Pepper (1870) say, "Typhoid fever has been observed during the first year of life, but is rare under the age of two years. It is comparatively infrequent between the ages of three and eight years, and attains its maximum of frequency in childhood between the ages of eight and eleven years."

Tanner (1871) believes that all those varieties of typhoid which have hitherto been described under the names of simple, continued and remittent fever are but different degrees of one and the same disease, typhoid.

Eustace Smith (1884) says, "Enteric fever is common in children."

Steiner (1871) says of typhoid, "This is common among children. In the Prague Hospital, out of 80,245 patients, 1,180 had typhoid."

Vogel (1870) says, "Abdominal typhus is much more frequent than is commonly supposed."

I think J. Lewis Smith did not mention typhoid in his first edition, but in his sixth (1886) he describes it fully, believing that it is not infrequent in children and presents peculiarities not found in adults, hence his chapter of eleven pages.

From the above quotations it seems that foreign authors recognize it as moderately frequent and writers in this country who, a quarter of a century ago, either did not speak of the disease as occurring among children or gave the subject very slight mention, are now describing it as more common, even among quite young children.

In all probability, as our malarial diseases become rare, typhoid fever increases in frequency.

II.—DR. J. H. ETHERIDGE made the following remarks upon

A CASE OF ANTERIOR VAGINAL ENTEROCELE

with exhibition of patient.

I have a rare case that I would like to exhibit to the Society, one of anterior vaginal enterocele. I have had a few of my medical friends examine it, and they all concur in saying that they have never seen a case like it. The patient is 19 or 20 years of age and has one child, 11 months old. When she was about six months gone in pregnancy, she "jumped the rope" one day and after that felt something come down through the vagina. She went to full term and had a normal labor. Whenever she strains or lifts, the enterocele comes down, presses the vulva apart and comes out between the thighs. On examination I find quite a large opening in the roof of the vagina. The edges of the ring can be very easily outlined with the finger, and when the hernia is down the finger in the vagina is at once attracted by a pendant mass, and by pressing it a little one can determine that it is filled with gas. The opening comes down to the left of the uterus, anterior to the broad ligament posterior and to the left of the bladder.

A Fowler pessary has been fitted which seems to answer the purpose of complete retention, and as long as the patient can avoid an operation my advice is not to have one. The uterus is in good position. She made a good recovery from her confinement and is nursing her child, and seems to be in a perfectly physiological condition. The question of operative procedure for a radical cure is a very serious one for this patient. Laparotomy is full of difficulty in attempting to close the hernial opening from within, is of a most unsatisfactory possibility in its outcome, and is followed by the very great risk to life which attends all laparotomies. Any operation through the vaginal tract will be attended by such a lack of certainty in results as to cause me to hesitate in essaying it. Until it is found impossible to retain the intestine in its proper place with a pessary, I have advised the patient to avoid submitting to any surgical procedure. The patient is present, and each gentleman desiring to do so can make the examination and verify what I have said.

DR. PHILIP ADOLPHUS: The case just presented for examination by Dr. Etheridge is a typical case of vaginal hernia, the intestine passing between the loosely attached connective tissue which unites

the bladder and anterior wall of the vagina, in its upper half. This mode of descent is much more infrequent than a hernia into the *cul-de-sac* of Douglas. In the case here presented the hernia is reducible in the upright position, contains intestine only, and has for its covering the peritoneum and vaginal wall. What can be done for this patient's relief? These herniæ seldom become strangulated. During labor, however, besides being an obstacle to prompt delivery, they are liable to contusion and strangulation. No retentive apparatus is worthy of trial, for all distend the vagina and ultimately increase the evil. What surgical procedure should be attempted? The text-books to which I have access do not suggest anything. Is the hernia to be closed by way of abdominal section or *per vaginam*? I think the closure *per vaginam* is preferable, and I suggest the following procedure adapted from Stoltz's operation for cystocele: "The patient being placed in Simon's position with the perineum retracted, the hernia is to be reduced and kept in place by means of armed probangs. An incision to be made over the tumor, the tissues divided until the ring of the hernia is exposed. This ring is to be surrounded by a running ligature of very heavy cat-gut, and then closely approximated, tied, and the ends cut off short, or, if thought preferable, interrupted cat-gut sutures may be introduced to effect the same purpose. This completes the first step of the operation. Then remove a piece of the vagina larger than the protruded tumor, over the region of the hernia. The wound may be closed by running a circular single ligature of carbolized silk in and out, about an eighth of an inch from the margin of the wound, all around it, the end of the ligature being brought out close to the place where it was first inserted. The two ends are then drawn tight and tied, leaving a puckered opening into which a little drainage tube may be inserted. During the introduction and the tightening of the ligature the intestine may be held back by armed probangs. It is easier to work in this region with the scissors than the knife. Great care should be practiced in operating in this neighborhood not to wound the uterus and the peritoneum, which can be avoided by elevating the mucous membrane as it is removed.

Now a few words in regard to the abdominal section for reducible vaginal enterocele. After having opened the abdominal cavity and withdrawn the prolapsed portion of the intestine, will it be easier to

close the hernial aperture than *per vaginam*? I think not. The peritoneum and cellular tissue beneath it (abundantly supplied with lymphatics and blood-vessels, the parametric tissue of Virchow and Spiegelberg) will have to be incised, the bladder and upper portion of the vagina separated, the redundant tissue of the anterior wall of the vagina drawn up and excised, then stitched and replaced; the peritoneum also closed below as well as externally in the abdominal parietes. Will this render the site of the hernial protrusion stronger? Will it be a safer and more efficient operation than the first? I think not.

DR. H. T. BYFORD: Dr. Etheridge has shown us one of those rare and interesting cases of anterior vaginal enterocele. The protrusion is through the parametrium in front and to the right of the cervix, the entire uterus being pushed backward, and the bladder forward. The left ureter can be felt passing from the trigone in front of the tumor downward and to the left of it. The broad ligament is pushed backward, and the round ligament outward toward her left side. The parts to the left of the median line seem only slightly to participate in the general displacement. The remedy for this condition, of course, must be to get the displaced organs and tissues back into the place now occupied by the intestine. I think Dr. Etheridge was wise in rejecting abdominal section as a remedy, for no advantage could be derived from it that would compensate for the risk involved. An operation from the vagina that would be justifiably performed upon a girl of her age could not be expected to be permanently successful, as the parts could not be properly replaced, and vaginal support could only be given. The treatment by pessary, already adopted in this case, is better than either of these procedures, because it acts partly by replacing the organs, especially the uterus, and partly by providing a barrier to the descent of the enterocele. Its weakness is that it does not tend to strengthen the parts upon it, and that it weakens those under it. The most efficient and rational method of permanently replacing the parts, and thus curing the enterocele would be to perform Alexander's operation of shortening the round ligaments. This would draw the fundus forward over the bladder and thus replace the normal central barrier to the descent of the intestines. It would also draw the round ligament and upper portion of the broad ligament forward to form a lateral support to them. By turning back the base of the broad ligament it would tend to draw

back into position the ureter (which is in close relation with its posterior edge), and at the same time the connective tissue through which the ureter runs and which is displaced forward with it. I know of no other method in which the parts could be brought back so nearly to their former relations. A pessary could now be worn until the parts had contracted and regained tonicity. If then the anterior vaginal wall remained redundant a circular piece should be excised in front of the cervix and by a stitch passed around it drawn together, along with the parametric tissue immediately above it.

DR. ETHERIDGE: If Alexander's operation was satisfactorily performed, what would be the effect upon the bladder and upon subsequent pregnancy?

DR. BYFORD: After the operation the fundus is not, or should not be; held down upon the bladder as firmly as in some cases of antelexion, in which there are no bladder symptoms of any account. I have performed three operations. In one case the bladder symptoms were benefited, in the others there were none complained of, either before or afterward. As to pregnancy, already there is some experience to show that it does not interfere. The round ligaments are not elongated in pregnancy as much as would be supposed, since the uterus grows to a certain extent away from them. In many cases of antelexion or anteversion the ligaments are shorter than after an Alexander operation, yet give rise to no serious trouble in pregnancy.

DR. ADOLPHUS: How could Alexander's operation be of benefit if it draws the fundus down and the cervix up, since the enterocele is between the bladder and the cervix?

DR. BYFORD: It draws the body of the uterus down under the intestines, displacing them upward. The cervix needs to be held upward and backward in order to secure a proper relation of parts.

III.—ETIOLOGY, PATHOLOGY AND CLASSIFICATION OF SALPINGITIS.

The Secretary, Dr. Edward Warren Sawyer, read the following communication from Dr. M. Sanger, of Leipsic, in reply to a letter by Mr. Lawson Tait, read before the Society, May 28th, 1886.

Dr. Sanger's letter was translated by Dr. Ivo Bernauer, of the Cook County Hospital, and revised by Dr. Christian Fenger.

LEIPSI, October 10th, 1886, Lindenstrasse 16.

TO DANIEL T. NELSON, M.D., PRESIDENT OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.

Dear Sir : I have been personally attacked by Mr. Lawson Tait in a letter addressed to you ; as I desire that my reply should go by the same way, I take the liberty of requesting you to bring my letter to the notice of your Society and to have it assigned a place in the Transactions of the same. Nobody will dispute that up to the present time Mr. Lawson Tait, of all laparotomists, has had the best results, at all events in regard to ovariectomy and salpingo-oöphorectomy. His practical results have, however, raised his conceit to so high a degree that in pathological questions also he assumes a certain infallibility, which vents itself in numerous sallies and attacks upon others. The consequence of this is that just at present, Mr. Lawson Tait is being subjected to various energetic criticisms as by Bigelow, Schröder and others.

Now Mr. Lawson Tait has also shot one of his shafts at me. I feel very thankful toward Dr. Christian Fenger for having received it on my account. However I do not wish to allow the matter to rest there.

At the sessions of the Gynæcological Society of Chicago, held in February and March, the treatment of pelvic abscess by laparotomy was discussed in a highly instructive manner. Dr. Fenger in his excellent and exhaustive remarks said that "my statements regarding ætiology were the most complete" inasmuch as there must necessarily be as many forms of pelvic abscess as there are forms of disease of the Fallopian tubes. The latter were enumerated by Dr. Fenger according to the classification given by me in a paper read at the *Versammlung Deutscher Naturforscher* in Magdeburg. (See report, Archiv. f. Gynæk. Bd. XXV, pp. 126-33.) In this classification six different forms are recognized, and it is this distinction which Lawson Tait is pleased to style "absurd." Although Dr. Fenger reiterated his statement "that he regarded my classification as correct and complete and in accordance with the laws governing inflammatory processes in all organs of the body," yet I do not think that this defense of my position is sufficient. Considering the great influence Lawson Tait exercises upon the profession, I deem it my duty to refute him in every particular. I shall attempt to do so in a scientific manner, and I may thus hope that my reply will prove of general use and interest.

The pathological anatomy and the course of salpingitis can be understood only when we bear in mind the theories of infection. The whole sexual tract, from the ring of the hymen to the *ostium tubæ abdominale*, is open to the entrance of the external air and the germs suspended in it. Carriers of infection coming from the abdominal cavity and its contained organs may also enter at the *ostium tubæ abdominale*. Even microbes originally lodged in the external parts, in the vagina around the cervix, may, by way of the lymphatics, reach the peritoneal cavity, and thence gain entrance into the tubes.

The normal vaginal and uterine secretions at the age of puberty and the menstrual blood contain numerous non-pathogenous micro-organisms. Still greater numbers are found in the catarrhal secretions of the uterus in cases of endometritis as was demonstrated by Küstner. As to the normal tubal secretion and the tubal secretion in cases of *salpingitis catarrhalis*, consequent upon *endometritis catarrhalis*, no investigations have as yet been made to show whether or not they, likewise, contain non-pathogenous microbes. However, as the secretion of an endometritis contains microbes we may assume that if the inflammation is continued into the tubes, its secretion will here likewise contain the same. It has been clearly proven that pathogenous micro-organisms pass from the external parts to the tubes and the peritoneal cavity a fact which is doubted by no one, perhaps, except by Lawson Tait. These organisms have in part been accurately studied and it is well known that different kinds produce distinct forms of salpingitis, and secondarily pelveo-peritonitis. The fact was already established by Guréin and Guerrier, that in making vaginal and intra-uterine injections air, and thus, also micro-organisms, might pass into the tubes (Physo-Salpinx). S. Hennig, in his book "*Krankheiten der Eileiter*," p. 52, surmises that, in cases of putrid endometritis and physometra, gases may escape from the tubes into the peritoneal cavity.

Our present knowledge of the above mentioned pathogenous micro-organisms will enable us to divide them into three groups:

GROUP I.—FORMS OF SALPINGITIS PRODUCED BY KNOWN SPECIFIC MICROBES.

1. *Salpingitis gonorrhœica*, produced by the gonococcus of Neisser.
2. *Salpingitis tuberculosa*, produced by the *bacillus tuberculosis* of Koch.

3. *Salpingitis actinomycotica*, produced by the *actinomyces bovis* of Bollinger.

1. *Salpingitis gonorrhœica* is the only specific, infectious form of salpingitis which is recognized as such by Lawson Tait, although he stops short of admitting that the gonococcus is the exciting agent. Without doubt the gonorrhœal is the form most frequently met with. This fact was clinically established as early as 1872 by Nöggerath, long before Neisser had discovered his gonococci or Lawson Tait had performed his first operations "for suppuration of the uterine appendages." In Germany, I myself was one of the first gynæcologists who at our meetings showed the frequency of gonorrhœal salpingitis, emphasized its causal connection with pelveo-peritonitis, and removed by operation the gravely implicated uterine adnexa. (Magdeburg, 1884, and Munich, 1886.) Gonorrhœal salpingitis is never followed by a destructive "suppuration" of the uterine appendages: it remains invariably a disease of the surfaces of the mucous and serous membranes. The pus formed by the specifically diseased mucous membrane gradually distends the tube; in one class of cases in which there is a great accumulation of free pus the tube is transformed into a large sac with thin walls; in another in which the wall of the tube, especially its muscular tissue, is hypertrophied to a greater extent, the tube becomes much thickened and rigid. In most cases, both conditions are found, the uterine portion of the tube is thickened, the abdominal end dilated. The serous surfaces of the tubes, the albuginea of the ovaries, the serosa of the peritoneum are attacked or become pus secreting surfaces only in cases in which gonorrhœal pus has escaped from the tubes and thus infected the above named structures. We may then have perisalpingitis, peri-oöphoritis, peri-metritis, s. *pelveo-peritonitis purulenta gonorrhœica*. I do not believe that gonorrhœal pus ever penetrates the walls of the tubes and thus produces these diseases. But a specific gonorrhœal inflammation of the mucous membrane of the tube, with secretion of pus into the cavity of the latter, is accompanied by a non-specific inflammation of the entire tubal wall. This may also excite peri-salpingitis, peri-oöphoritis and so forth; the organs involved may become adherent to each other and displaced, but we never meet with a purulent exudate of the same nature as that found in the cavity of the tube itself. This also explains why, in some instances, gonorrhœal disease of the uterine appendages is

accompanied by severe and violent symptoms, frequently resembling those of a peritonitis following perforation, whereas in other instances it develops insidiously, scarcely manifesting any symptoms at all. In the former cases, gonorrhœal pus escapes through the *ostium abdominale* into the peritoneal cavity; in the latter the inflammation of the external surfaces of the adnexa is non-specific in character.

According to what I have just stated, I must necessarily regard the terms, "suppuration of the uterine appendices and peri-uterine s. pelvic abscess," as inaccurate, and from a general pathological point of view, as productive of confusion; we invariably find free pus in the tubes and peritoneal cavity or an inflammation of the adnexa, but never destructive suppuration of the tissues of the pelvic organs. In cases in which abscesses are discovered in the walls of the tubes, in the tissues of the *ligamenta lata* and in the ovaries these abscesses are, as I shall later on show, due to septic infection, but not to gonorrhœa. The latter disease produces suppuration only on surfaces.

I purposely enlarged somewhat on gonorrhœal salpingitis and its consequences, as this form presents a typical example of infectious salpingitis in general.

There is one more point to which I wish to call attention. Gonococci have not always been discovered in pus coming from the tubes in cases in which clinically there existed no doubt as to the gonorrhœal nature of the infection. The conditions under which the gonococci are destroyed, or prevented from further development, have not yet been ascertained; further investigation will also have to show whether, in cases in which gonococci are absent, there are not present other microbes belonging to one of the groups mentioned further on.

2. *Salpingitis tuberculosa*.—Alfred Hegar's lately published work, "*Entstehung, Diagnose und Chirurgische Behandlung der Genitaltuberculose des Weibes*," relieves me of the necessity of entering more fully into the consideration of this form of salpingitis. Lawson Tait denies the existence of this form, or rather, he admits it, but only "for the third and contracting stage of pyosalpinx." This admission simply discloses his ignorance of the true nature of tuberculous infection. The pus in a case of purulent salpingitis, whether it be gonorrhœal or otherwise, may of course undergo casea-

tion. This was called tuberculization before Koch's discovery of the *bacillus tuberculosis*; now it is termed coagulation-necrosis, according to Cohnheim-Weigert. It is this, which Lawson Tait confounds with the genuine infection by the bacillus of tuberculosis.

A pyosalpinx may remain in this third stage indefinitely: a tuberculous salpingitis will never result therefrom unless there be added a tuberculous infection.

3. *Salpingitis actinomycotica*.—This form is called by Lawson Tait "an equally ridiculous subdivision based on mere theory, not on fact." It seems to me before making such an unintelligible assertion it would have been his duty to inquire whether there really is no case on record to support me in including this form in my enumeration. In my paper, above mentioned, I named the author who had furnished this case; I will now accurately give my authority: Adolph Zemann, "*Über die Aktinomyose des Bauchfells und der Baueingeweide beim Menschen, Medicin. Jahrbücher der K. K. Gesellsch, Ärzte in Wien*," 1883, S. 477, Fall 4. The tubes in this case were dilated and filled with pus and clumps of the actinomyces, their walls were thickened and exhibited numerous granulations produced by the fungus. The fungus had migrated either from the vagina or from the intestines which were found extensively adherent to the tubes. What Lawson Tait does not know, has no existence for him. "Germanica sunt, non leguntur."

GROUP II.—FORMS OF SALPINGITIS DUE TO SPECIFIC MICROBES IDENTICAL WITH THOSE PRODUCING TRAUMATIC INFECTION.

Salpingitis septica (*pyæmica, ichorosa, purulenta, diphtheritica*).—The term *salpingitis septica*, is rather general and inaccurate; as when speaking of a pyosalpinx we simply mean that the tube contains pus, when employing the term *salpingitis septica* we merely indicate that the disease is due to infection by a septic virus. It is at the present time a matter of extreme difficulty to diagnose the nature of the pus and the nature of the infection presented to us in an individual case. Now, we certainly know that the microbes producing the different kinds of traumatic infection known clinically as septicæmia, pyæmia, diphtheria, phlegmon, erysipelas, may one and all invade the genital tract; we may hence infer the existence of an equal number of varieties of salpingitis, i. e. *salpingitis septica, pyæmica, diphtheritica, phlegmonosa, erysipelatos*. In

order to complete our scheme we should add *salpingitis putrida*, corresponding to putrid infection, whereby the difficulties are still further increased.

Notwithstanding the progress made in bacteriology, we have not yet succeeded in isolating and classifying the microbes which cause the clinically different forms of traumatic infection; consequently it is impossible to do this with regard to the different forms of *salpingitis septica*. However, the work done by Doléris, E. Fränkel, Lomer, A. H. Barbour, Nöggerath, Cushing, in the domain of puerperal infection has given us some positive results.

There are two points which are to be considered fundamental:

(1) The microbes of puerperal septicæmia are identical with those producing traumatic infection in general. During the puerperium after abortion, as well as after parturition at term, the genital tract is far more susceptible to infection, or the conditions are far more favorable to the spreading of infection, than at other times.

(2) As has been demonstrated by Ogston, Hueter and Rosenbach all suppuration is due to the action of microbes; several varieties of these, like the *streptococcus pyogenes* and *staphylococcus pyogenes*, have been closely studied, but it is known that they are not the only varieties which produce pus. As doubtless all of these carriers of infection may play a rôle in the production of salpingitis, we can readily see how complicated the question of infectious diseases of the tubes has become and how unscientific and untenable is the meaningless name of pyosalpinx. Yet there is a certain comfort in hoping that the matter may be somewhat simplified. Some of the forms of traumatic infection, for instance, sepsis, and diphtheria, pyæmia and phlegmon, are probably produced by identical micro-organisms, and the course of the disease may be modified by the nature of the tissue first attacked and by the manner in which the infection spreads, whether by the blood or lymph channels.

All of these infections, as is well known, have a double effect—a local one in the genital tract, and a constitutional one, which is brought about through the medium of the circulation, and which is seen not only in the system at large, but also in the localization of the infection in organs distant from the point of entrance of the micro-organism. When systemic effects are produced by the virus of putrid infection, the disease is called sapræmia; when by the

virus of septic infection, septic toxæmia or ptomaine poisoning; when by that of purulent infection, pyæmia.

We thus meet with an essential difference between the diseases of the genital tract, produced by the microbes of Group I, and those of the traumatic infection. The above mentioned severe and acute constitutional symptoms are but slightly indicated, or may even be absent in the diseases of the first group, i. e. gonorrhœa, tuberculosis, actinomycosis, whose course is chronic; whereas in diseases of the second group the rapidity of their development and the malignity of their course may almost entirely obscure the local disturbance in the genital tract.

As is readily seen, the septic diseases of the tubes are not independent diseases; aside from the local disturbances co-existing in the uterus, vagina and external genitals, the whole circulatory system is usually affected. In this respect, as Lawson Tait rightly remarks, septic disease of the tubes is not a specific ailment; this, however, is of no importance in an enumeration of the varieties of salpingitis. An endometritis or a *colpitis gonorrhœica* may co-exist with a *salpingitis gonorrhœica*, and in the same way *salpingitis septica* may be accompanied by other diseases of the sexual organs, which are due to the same cause. There is, of course, no such thing as an affection of the tubes merely.

Salpingitis septica, co-existing with severe puerperal septicæmia or "lymphatic peritonitis" has never as yet, it is true, given the surgeon an opportunity to remove the principal focus of the disease by extirpation of the tubes. It is possible, however, that under certain circumstances such a procedure might be indicated. B. S. Schultze, "*s. Verhandl. d. gynækolog. Section d. Versammlung deutscher Naturforscher*," in Berlin, 1886, has recently succeeded in amputating a puerperal uterus, in a case in which it was impossible otherwise to remove the placenta, which had become the source of septic infection. Lately two cases came to my knowledge in which the tubes burst from overdistention with pus, whose nature, whether gonorrhœal or septic, was not ascertained. In both cases a general peritonitis resulted which proved fatal, in one on the fourth, in the other on the twenty-first day after confinement. It is clear that in both these cases the salpingitis had existed before delivery. I shall afterwards relate a case of my own in which this certainly was the condition. Cases of this kind will be diagnosed more frequently

and more readily as soon as our attention has been called to them, and we may then expect to hear of their treatment by operation. Cases of salpingitis, consequent upon traumatic infection in non-puerperal women, are, of course, of much more frequent occurrence. The carriers of infection may, for instance, be directly introduced into the tubes by means of an infected sound. The introduction of a septic instrument into the uterine cavity may be followed by a septic salpingitis. In cases in which we observe an exudative pelveo-peritonitis after the introduction of an infecting sound, after an intra-uterine injection or a *curettement* of the *mucosa uteri*, the infection almost always spreads to the pelvic peritoneum by way of the tubes and exceptionally only through the muscular walls of the uterus. The severe systemic disturbances, the diseases of the uterus and pelvic peritoneum, may gradually subside, whereas the tubal affection remains. A pyosalpinx has formed, the tubes are filled with pus, which can have been produced only by the action of one of the specific microbes of traumatic infection: perhaps by the *staphylococcus pyogenes*.

Two cases of my own may serve as illustrations. In one of them a physician had performed *abraisio mucosæ uteri* without antiseptic precautions, infection took place and a *pelveo-peritonitis exudativa* followed, after the subsidence of which I could easily feel each tube thickened to the size of a thumb. At the operation both tubes were discovered to have thinned walls and to contain thick pus resembling that found in an abscess. The ovaries were small and enveloped in masses of very dense, connective tissue. I removed the tubes, but left the ovaries. The woman made a good recovery. The adnexa had been in a healthy condition before the mucous membrane of the uterus had been scraped. I have already published the other case ("Verhandlungen der Gesellsch. f. Geburtsh.," zu Leipzig, 17 April, 1882; "Centralb. f. Gynæk.," 1882, p. 558); multipara of twenty-nine years; three spontaneous deliveries, at the fourth *placenta prævia*, and forceps applied before complete dilatation of the os. Puerperal fever. Recovery, but permanent pains in the right epigastrium. A short time after, renewed pregnancy, in the third month of which a prominent gynecologist ascertained disease of the right uterine appendages; at full term rapid and spontaneous delivery. On the third and subsequent days of the puerperium, chills, high intermitting fever, icterus, in short the

symptoms of acute pyæmia. Death on the thirtieth day. The autopsy revealed *salpingitis purulenta dextra*, and several abscesses in the right ovary and right broad ligament. The remainder of the genital organs, the adnexa on the left side normal. I explain the course which the disease took in this case in the following way: At the fourth parturition, septic infection and localization of the disease in the uterus and the appendages on the right side; subsidence of the grave constitutional disturbances and persistence of a pyosalpinx, probably due to *streptococcus pyogenes*, latency of pyosalpinx during subsequent pregnancy. After delivery increased absorption of pus, abscesses in the ovary and broad ligament, acute pyæmia and death. In a case of this kind a septic-infectious disease, originally extending over large portions of the sexual tract, is finally concentrated in the tubes. Why should not such a case, in which the tubes chiefly appear affected, present a "specific ailment" as well as does a case of *pyosalpinx gonorrhoeica*, in which *ceteris paribus* we have the same limitation of the disease to the tube as a principal focus for further infection.

What I desire to prove by these somewhat extensive remarks is, briefly, as follows:

1. Numerous cases of *salpingitis purulenta* ("pyosalpinx") are due to traumatic infection, are septic forms of salpingitis.
2. There are as many forms of septic salpingitis as there are forms of traumatic infection, and of microbes producing the same.

There is, however, an additional reason why Lawson Tait denies septic salpingitis to be a specific ailment. As we see from his startling remarks in the *Medical News*, April 24th, 1886, he does not believe in sepsis at all, does not believe in infection, denies the principles on which the practice of modern surgery and obstetrics is based. He has been taught nothing by the researches of Semmelweis and Lister, Pasteur and Koch. And why? Because his own success in combating septic infection is to him proof of the non-existence of septic infection. We are accustomed to Lawson Tait's reckless statements. Without taking the trouble to refute them scientifically, I but wish to call to mind his assertion that menstruation does not depend upon the ovaries, but upon the tubes, that the mortality of the Cæsarean operation is still 99 $\frac{2}{3}$ per cent. His denial of traumatic infection is a statement of the same kind.

I should like to hear Lawson Tait's answer to the following questions:

1. What disease, before the introduction of Listerism, killed thousands of patients who had received wounds or who had been operated on? What, according to his views, was the cause of death in his own cases, when he lost patients after operations, if not, as everybody else believes, septic infection?

2. What is puerperal fever?

Lawson Tait disputes the correctness of our teachings regarding infection, but he has failed to give us any other explanation of its phenomena.

GROUP III.—FORMS OF INFECTIOUS SALPINGITIS PRODUCED BY SPECIFIC,
BUT AS YET UNKNOWN, MICROBES.

1. *Salpingitis syphilitica*.—This form has been described by Bouchard and Lépine (*Gazette Med. de Paris*, 1866, No. 41). Both tubes were swelled to the thickness of fingers, and contained three gummata of the size of hazel nuts. The description given by these authors of the tubal disease agrees fully with the changes brought about by syphilis in other organs. Of more recent authors, Gill Wylie expresses his opinion that tubal syphilis does occur ("Diseases of the Fallopian Tubes," etc., January 24th and February 7th, *The Medical Record*, 1885). He says that "syphilis may cause salpingitis, just as it does otitis or ozæna." He also calls attention to the fact that "endometritis in syphilitic subjects has a most obstinate character." Compared with the actual observation of Bouchard and Lépine, the clinical remarks of Gill Wylie are, of course, of theoretical value only.

Like Lawson Tait, I, myself, have never yet had occasion to observe an undoubted case of tubal syphilis. We should bear in mind, however, that our attention has been but little called to the anatomy and clinical forms of this disease. We are not justified in denying this form altogether, as we are not in a position to dispute the reliable authors who have testified to its existence. Others may have seen what we ourselves have never had occasion to witness. I desired to give a most complete enumeration of the forms of infectious salpingitis hitherto described; I could as little have omitted *salpingitis syphilitica* as I could have done *salpingitis actinomycotica*, of which also up to date but one authentic case has been observed.

2. Occasionally we find in young girls, who have never had intercourse with a man, tubes filled with pus and pelveo-peritonitis. This has been accounted for in various ways. It has been said that in these cases a serous catarrh is intensified and changed to a purulent inflammation; that the suppuration is due to catching cold at the menstrual period, or to a trauma. These cases have also been adduced as evidence to show "that tubal suppuration is not always of gonorrhœal origin." Yet also in these cases there is always an infection, and usually a gonorrhœal infection. I, myself, have seen a comparatively large number of girls of all ages, from infancy to puberty, who were infected with gonorrhœa. We know how easily the infecting germs are carried from one person to another; for instance, parents and children may use the same sponge or bath tub; the germs may adhere to fingers, linen, etc. The girls infected may further spread the disease in school, and so on.

Aside from the gonorrhœal, the tuberculous infection is to be mentioned as a cause of pyosalpinx in young girls. Just at present I am treating a girl of 17, who is suffering from a disease of both appendages, complicated with pelveo-peritonitis. The tubes can be distinctly felt, and are thickened and nodular. She has a hectic appearance, like that of a consumptive; her lungs, however, are normal. The father of the girl was, not long ago, operated on for tubercular orchitis. I hope that the operation will confirm my diagnosis of *salpingitis tuberculosa*.

Undoubtedly the microbes of traumatic infection may also, after accidental lesions of the external genitals, get into the tubes of young girls; they may also enter from the peritoneal cavity. I know of a case, a girl of 16, in which an inflammatory disease of the right uterine appendages developed, consequent upon a retrotyphlitis.

My reason for again considering these forms of infectious salpingitis belonging to Groups I and II, in regard to their occurrence in children is this: there are evidently other infections of the female genital tract, which have been observed in children but which have not as yet been recognized as special forms; consequently they are to be placed in Group III, in opposition to the forms of the two preceding groups. E. Fränkel, of Hamburg ("*Bericht über eine bei Kindern beobachteten Endemie infectiöser Kolpitis*, Virch. Arch." February, 1885), and Johann C'seri, Budapest ("*Zur Ätiologie der*

in *fectioesem Vulvo-vaginitis bei Kindern*," *Wiener Med. Wochenschrift*, 1885), describe an infectious disease of the vagina and vulva, the former believing it to be due to a special coccus, the latter to a coccus identical with Neisser's gonococcus.

Hennig (*Krankheiten der Eileiter*, page 67) in a girl of ten and Eppinger (*Prager Zeitschrift für Heilkunde*, 1882, page 36) in an adult witnessed a dysenteric inflammation extend to the mucous membrane of the genital tract; the disease in its new location assumed the appearance of a diphtheritic inflammation.

Suppuration is sometimes observed in the vaginæ of children suffering from helminthic disease. In these cases the suppuration is not caused by the irritation of the parasite especially the oxyuris, but by certain microbes carried into the vagina by the parasites. The nature of these microbes has not as yet been sufficiently investigated to allow of their classification.

It has long been known that certain infectious diseases, like typhoid fever, scarlatina, variola, cholera, may invade the genital tract. The local affections are probably caused by the same specific microbes which produce the typical constitutional disease. This, however, still remains to be proven.

At the close of this enumeration, I wish to repeat that in every case where the vagina or uterus is the seat of one of the diseases named, such disease may extend into the Fallopian tubes. I am well aware that I am standing on an unsafe scientific basis regarding my third group of forms of infectious salpingitis. For this very reason I deemed it advisable to group them together, thus keeping them apart from the better known forms; besides I desired to point out the object which should be kept in view in investigating this subject and in endeavoring to elucidate it still further. It is, finally, self-evident, that there are also mixed forms of salpingitis. Different varieties of micro-organisms may enter the tubes either simultaneously or successively. The forms most frequently found combined are the microbes of the gonorrhœal and tuberculous, and of the gonorrhœal and traumatic infection and those of the different varieties of the latter.

Every physician whose scientific standpoint is the same as mine will admit, that matters regarding salpingitis are immensely more complicated than Lawson Tait imagines, and that it is not sufficient to make an abdominal section, to remove the uterine appendages

and to satisfy oneself with the diagnosis of pyosalpinx in case the tubes are found filled with pus; but that it is our duty, employing all the means furnished by modern science, to endeavor to make an accurate diagnosis of the form of disease affecting the uterine appendages before the operation, and afterwards to add to our clinical observation careful pathological and bacteriological examination of the specimen. This certainly is a higher standpoint than that occupied by Lawson Tait, to whom the removal of the uterine appendages is the chief thing, and who, neither before nor after the operation, concerns himself with the nature of the disease treated. He admits, himself, that in every fifth case he made an error in diagnosis. In a man like Lawson Tait, so great in his own estimation, it seems rather small to attempt to conceal his ignorance by resorting to insulting and scurrilous remarks in regard to German scientists. I advise Mr. Lawson Tait to learn German and to read the works of German gynæcologists; he may perhaps come to the conclusion that there is much which he might profitably study.

Here in Germany, Lawson Tait is held in high esteem, as he deserves to be, on account of his brilliant practical results. We have long since, however, ceased to regard as serious his theoretical utterances, which pretend to be scientific. The tone which he adopts in his polemic writings does not prevail with us in Germany, and it is certainly looked upon as undignified by every gentlemanly Englishman.

I am, sir, etc.,

DR. M. S. AENGER,

Privatdocent at the University of Leipsic, President of the Obstetrical Society of Leipsic.

IV.—DR. EDWARD B. WESTON on presentation of a thesis, entitled,

METRITIS,

read by the SECRETARY, was elected Fellow of the Society.

W. W. JAGGARD, M.D., *Editor.*

2330 Indiana avenue.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, Dec. 6th, 1886.—THE PRESIDENT, EDMUND J. DOERING, in the chair.

PROFESSOR JOHN A. ROBISON read a paper on the antipyretic action of antipyrin and thallin, which appeared in the January number of the *Journal and Examiner*, and in which he had collected and condensed the results of the experiments of a large number of clinicians. The largest number of observers agree that antipyrin is a safe, efficient and unobjectionable antipyretic. Contrary to believe in general it does not have a depressing or debilitating effect on the heart, whereas thallin has. Antipyrin causes no change in the blood, whereas thallin has a deleterious effect on the blood and veins. In conclusion, the author believed antipyrin should always be given to produce apyrexia in cases where the temperature is excessively high. He does not believe the drug has any power to lessen or prolong the duration of the continued fevers. He also stated that it not only lowers the temperature, but relieves the pain that accompanies acute articular rheumatism with endocarditis, especially if given with alkalies.

DR. J. J. M. ANGEAR said he had not given this subject any special study, but the subject of temperature he had, and it might not be amiss to speak of some difficulties against which we have to contend. If radiation is increased or diminished and metabolism remains normal, we have increased or decreased temperature; or if metabolism of the body be increased or diminished and radiation remains normal, then we have increased or decreased temperature. We have no means of arriving at any definite conclusion whether our patient, with increased temperature, is suffering with increased metabolism or decreased radiation, or both. We know from observation and from various experiments that the internal part of the body is very frequently hotter than normal, during the cold stage of fever, and cooler than normal during the febrile stage. May not the sum total of caloric in the body be diminished when the thermometer tells us that it is increased, and *vice versa*? If we answer yes, then we are found trying to diminish the temperature, when we should be husbanding what we have. Does not this show that there is a certain amount of pathological knowledge in regard to body temperature at which we have not yet arrived? And our therapeutical knowledge is necessarily as defective in this regard.

Do antipyretics facilitate radiation or check metabolism, or both, or do we know anything about it except its action upon the thermometer? If we could arrive at some definite, pathological conclusion as regards the pyrexial state of the patient, then we could, perhaps, arrive at some scientific knowledge of the action and use of all antipyretics. Had we an instrument by which to measure the amount of radiation and metabolism, it would be of far greater value to us than the thermometer.

PROFESSOR G. C. PAOLI said: The paper was well prepared and interesting, but the question arises, do we know anything about the essential nature of fevers? He would answer, no. But we know the effect, if we do not know the nature, and in fevers we generally use remedies to lessen the temperature. He had used antipyrin in only eight cases: two of them typhoid fever, two of scarlatina, two of lung trouble. In regard to the fever, he admitted that the remedy had an antipyretic effect. In two cases the patients vomited as an effect of taking this remedy. He commenced with ten grains, and it diminished the temperature but did not stop the course of

the fever, which lasts usually from five to six weeks. One effect he found from the use of antipyrin, is the lessening of nervous irritability. In a case of tuberculosis, after using antipyrin he began with quinine and found it more of a tonic. In the cases of scarlatina in which he used antipyrin he did not observe any favorable effect; it lessened the temperature, of course, but the same effect was produced by quinine.

DR. H. GRADLE said: Although his line of practice does not often enable him to watch the effects of antipyretic drugs in disease, yet he said he could speak of the effect of antipyrin in one disease, viz., the dentition fever of infants; which, although not usually serious, is in a great many instances annoying, and in which, when the fever is high, there is a possible danger of convulsions. He had never heard of any drug that will reduce the fever under these circumstances as promptly and with as little disturbance as antipyrin. With a temperature of 103° F. a child can be rendered quiet in the course of an hour by one dose of four grains, and perhaps a second dose of two grains, and be pacified for the entire night. He desired to ask the author if he has had any experience in the continued use of thallin in typhoid fever, with the effect of aborting the disease? According to some rather startling statements made several months ago by Ehrlich, it was claimed that it reduced the fever permanently in the course of eight to twelve days.

DR. G. W. WEBSTER favored the use of antipyrin. He had used it in cases of typhoid pneumonia. One point is the favorable action of antipyrin on the headaches of typhoid fever. One of the most distressing symptoms when the temperature is very high is the severe, continued headache and the delirium which always accompanies it. He had not found any other remedy that would have as good an effect in these cases as antipyrin, which always relieved the headache promptly.

DR. H. T. PATRICK said that he is quite partial to antipyrin and has used it in a number of cases. It will often effectually reduce the temperature when baths and sponging will not. In a case of pneumonia in a child of eight years he gave antipyrin from the beginning to the end, with good results, except for one day when he tried sponging instead. The child was sponged off six times in six hours, five to ten minutes each time, without any reduction in temperature. Sometimes cold baths have no effect in reducing the temperature because of a very thick panniculus of adipose tissue. Here antipyrin is indicated. The continuous administration of antipyrin in tuberculosis he had found in a few cases very gratifying. In one case ten to fifteen grains were given every afternoon for a term of ten weeks, with great relief to the patient. His temperature was 103° F., and there was prostration and irritability of mind. The antipyrin was a relief to the patient, and to his family on account of the improvement in his disposition.

DR. J. FRANK had had a personal experience with antipyrin, having taken it two years before while suffering with typhoid fever. The temperature ran as high as 106° F., and quinine had no effect in reducing it. He took antipyrin in 15 and 30 grain doses, first by mouth and then by rectum, with the effect of rapidly reducing the temperature. He has used it in practice in the treatment of erysipelas and typhoid fever, but he does not depend upon it entirely, giving it when the temperature rises very high. In erysipelas he has always found that the antipyrin will reduce the temperature.

DR. C. W. LEIGH said he had seen antipyrin used in a limited number of cases, three or four, of typhoid fever, and none of the patients were older than twenty-one. In these cases there was a visible decrease in temperature and the delirium was lessened very much.

PROFESSOR ROBISON said that he had not pretended to give anything except the results of the observations of a large number of physicians who

had used this drug and recorded their experiences. Also the results of quite a number of experiments of therapeutists, as for instance Umbach's experiments in regard to the decrease of tissue-waste. He did not try to detail all these different experiments, but attempted to epitomize the well known actions of the drugs that have been observed. Two of these actions, the increase of heat radiation by the dilatation of small blood-vessels, and the decrease of oxidation, are the main factors in producing the fall of temperature. Dr. Angear says if we can arrive at some conclusion in regard to the manner in which the drug acts, we can use it. Professor Robison thinks we have arrived at a conclusion; these experiments have been carefully conducted and we have seen that antipyrin actually reduces high temperature without any danger to the patient, and it is only in cases where the high temperature itself is a danger to the patient that its use in large doses is to be recommended. In regard to its use in aborting typhoid fever, Professor Robison had not tried it except in four cases; one was a boy under seventeen and another one fourteen. The temperature was about 103° F. He gave large doses and in three days all signs of fever had disappeared. A few days afterwards another member of the same family was taken sick, and the antipyrin was used as before, but that patient went through all the stages of typhoid fever. In another family there were five cases of typhoid fever. Two of the family had had the fever, and one of them died; then three others took sick. Antipyrin was given in large doses in all these cases, but it failed to abort the fever in any of them.

DR. HENRY GRADLE read a paper entitled

DISEASES OF THE VAULT OF THE PHARYNX,

which appeared in the January number of the *Journal and Examiner*.

PROFESSOR W. E. CASSELBERRY said he agrees with the author on the importance of the pathological states which occur in the naso-pharynx, and would particularly emphasize the importance of the subject in connection with ear diseases. It is usually neglected because the practitioner does not use the rhinoscope. This can readily be used since the introduction of cocaine; formerly, the pharynx being so irritable, it was a different matter, and considerable practice was necessary in order to acquire the use of the mirror, but now a 2 per centum solution of cocaine sprayed around the pharynx will so reduce the sensibility that the introduction of the rhinoscopic mirror is comparatively easy. He was somewhat surprised at the size of the mirror recommended; usually a small one about one-half inch in diameter is used. This, of course, will not show the entire naso-pharynx at one time, but it can be easily rotated from side to side. With a large mirror a hook is always necessary, which usually complicates the case and is more apt to gag the patient than the use of a small mirror without the hook. He is accustomed, in considering the diseases of the naso-pharynx, to divide the inflammatory affections into three classes. First, the simple chronic naso-pharyngitis; second, the hypertrophic naso-pharyngitis, and third, the atrophic naso-pharyngitis. In the first there is a simple inflammation of the mucous membrane and of the connective tissue beneath the membrane, the connective tissue being sometimes involved to such an extent as to form, here and there, thickened areas of infiltration. He thinks that many of the cases in which the author sees no perceptible lesion in the naso-pharynx can be graded in this class. The hypertrophic form of disease may be sub-divided into two classes, one in which the follicular structures are uniformly hypertrophied, the group of follicles constituting the tonsil of Luschka being enlarged and appearing in the rhinoscopic mirror of about the size and configuration of an ordinary tonsil of the throat. And the other sub-class in which the enlargements are pendant, pear-shaped bodies resembling stalactites, and hence called the stalactitic form. This is the form which was originally described under the name of

adenoid vegetations, and the one which is met with most commonly in Germany, whilst the uniform enlargement is more common in this country. The atrophic naso-pharyngitis, as is the case in the pharynx itself, may be regarded as a later stage of the hypertrophic naso-pharyngitis, although in rare instances it may commence in the atrophic form. During the hypertrophic stage the proliferated connective tissue cells gradually encroach upon the glandular structures, and, so to speak, squeeze them to death, whilst the connective tissue cells themselves, as in cirrhosis of other organs, of the liver, for instance, later contract and atrophy. The mucous membrane is now pallid and thin, and is encrusted over with a dry secretion. This is the form of disease which so often gives rise to fetor of the breath, especially when it involves the naso-pharynx, although the disease is not restricted to that locality. In reference to the treatment there is little to add to what has already been said. He had not employed the curette much as his patients will not tolerate the blood and pain. The pain now is not as great as before the introduction of cocaine, but the blood horrifies the younger patients, and the parents. He has found an equally efficient, although a more lengthy treatment, in the galvano-cautery. It is bloodless and painless. In cases of stalactitic growths the best method is the galvano-cautery snare. For the uniformly enlarged variety he employs a Hemming naso-pharyngeal electrode. Nitrate of silver as a means in the treatment of catarrhal conditions, although it has been greatly abused, is unquestionably effective if properly used. In cases of simple chronic inflammation of the mucous membrane, where there is thickening of the subcutaneous tissue, a strong solution applied by means of the cotton swab, 40 grains to the ounce, used by the physician every day, then every two days and finally twice weekly, will lead to the absorption of the infiltrated material. Strong solutions of nitrate of silver (40 gr. to 3i) cause absorption of infiltration, whilst weak solutions (10 gr. to 3i) stimulate the further production of infiltrated material and the activity of the glands. Consequently weak solutions will only aggravate the hypertrophic form of disease. For the same reason a weak solution will benefit the atrophic form. In reference to the pharyngeal bursa, he expressed the opinion that too great importance has been ascribed to it.

PROFESSOR F. O. STOCKTON said his experience in the treatment of chronic nasal pharyngitis by the use of nitrate of silver had been anything but pleasing, and he had never seen a beneficial result from it. It is recommended by many in the form of powder, 1 grain of nitrate of silver powdered with some drug and distributed over the membrane; but his experience had been negative. He had found solutions of it to be of no benefit whatever. It discolors everything, is a dirty, useless drug, and greatly overestimated. The use of the curette in removing adenoid vegetations is quite a recent thing. He had not tried the method that the author speaks of, to any great extent, and he prefers the gouge forceps. He generally uses the galvano-cautery, as it is now possible to use it without difficulty with the aid of cocaine, and the fact that there is no blood lost is a very important consideration in the treatment of young subjects, because, even if they have no pain, if they see a drop of blood they are frightened and begin to scream.

DR. M. R. BROWN said in regard to the size of the mirror recommended by the author, he would consider it large, and apt to produce gagging by coming in contact with the pharyngeal walls, but if cocaine is used this may be avoided; and should a mirror about half the diameter of the one shown be employed in posterior rhinoscopy, nine out of ten instead of three out of four cases can be examined at the first visit.

Referring to the pharyngeal tonsil producing bronchitis and cough, the irritating mucous finding its way into the larynx has a great deal to do with producing laryngitis, which will give rise to cough. The case of

bronchitis mentioned by Dr. Gradle was evidently of a reflex nature. After having treated the pharynx with nitrate of silver for any length of time, there results a thickening of its mucous membrane. He believes that nothing is gained from the use of this remedy in the conditions mentioned. Such has been his experience after having employed it in solutions of various strength in the different diseases of the pharynx. He occasionally makes use of the cold-wire snare, but prefers the galvano-cautery. He also employs a gouge or curette with satisfactory results; but, owing to the pain it causes the patients, he has devised a punch forceps, the use of which is attended with less pain than, and is as satisfactory as, the gouge.

Regarding the hypertrophied tonsils receding between the ages of 25 and 30 years, he said he had seen a number of cases in which the patients with this growth were beyond this age. That day he had examined a man 35 years of age, and a short time since removed a similar growth from a man who was over 50 years old.

Speaking of the microscopic appearance of the naso-pharyngeal growths, Mackenzie says that in adenoid vegetations "the glandular element is, as a rule, more marked in growths taken from the vault of the pharynx, whilst in vegetations taken from the lateral walls the stroma of Kis is found in greater abundance."

DR. GRADLE said: As to the size of the mirror, of course where the patient will not permit you to use a large one you will have to use a small one: but where you can use the large mirror, there is an advantage in gaining a full view of everything. In speaking of being able to examine three out of four, he referred to patients as they come. As a rule, he does not use cocaine in the first examination, because it is so disagreeable. He does not use the hook where the distance between the posterior wall and the pharynx is considerable. As regards nitrate of silver, there are many conditions in which it is entirely useless. One is the practice of cauterization with the solid stick. He has never done this. But there are certain conditions where nitrate of silver is useful and acts promptly, viz., chronic hypertrophic catarrh. And it is sure to give relief in the more acute forms of catarrh, where the pharyngeal tonsil is not enlarged enough to cause damage, but swells from temporary congestion. The patient can use a preparation of 4 per centum and apply it himself with a brush, but it is preferable to have the physician use it. The spray, according to his experience, is more effective and not so disagreeable as a dry powder, but it requires considerable care on the part of the physician to avoid staining the clothing.

PROFESSOR F. E. WAXHAM reported a case of

PSEUDO MEMBRANOUS LARYNGITIS, TREATED BY ELECTROLYSIS.

Almost every disease of the human body has been treated by electrolysis, but the larynx has only recently been invaded. It seems probable that stenosis of the larynx from membranous exudation may be reduced by the galvanic current, the false membrane being destroyed or detached. On October 26 the author was called to see a child of 8 years who had been sick nearly a week with membranous croup. She was in the last stages of asphyxia, and all hope of her recovery had been abandoned. An intubation tube was threaded with platinum wire and used as a negative electrode, and introduced into the larynx without difficulty, when respiration at once became easy. The child coughed up considerable soft membrane and ropy mucus and became conscious. The platinum wire was then insulated by passing it through very small wire tubing, and the projecting wire was attached to a twelve-cell McIntosh galvanic battery. A positive electrode which consisted of an ordinary sponge moistened with warm water was placed over the larynx, and a current from ten cells employed. The cur-

rent caused some pain and considerable redness of the skin under the sponge, and was reduced to eight cells and passed for five minutes, during which time considerable mucus and softened membrane were expelled. The tube was withdrawn, and the child drank two glasses of milk and passed into a quiet sleep. About two hours later, the respiration having become labored, electrolysis was again performed in the same manner, a current from first eight and then ten cells being employed. The effect of the current was to detach and expel patches of false membrane. No further experiments were made with electrolysis. The child died on October 28.

It was expected that the galvanic current would have but little effect upon the false membrane, but that it would relieve the swelling and congestion of the tissues. On the contrary, the current had a decided effect in loosening and detaching the membrane, and the secondary effect was to increase the swelling and congestion.

Experiments were made on two rabbits with a view of ascertaining the effect of the galvanic current on the healthy larynx. One was given chloroform, the tube introduced into the larynx and a current from eleven cells passed for five minutes. Some dyspnea followed which was attributed rather to rough usage than to the effect of the current. This subsided and the rabbit recovered. The other rabbit was given a current from eight cells, and apparently suffered no inconvenience.

The author thought no deductions could be drawn from a single case; that the current might have been too strong, or not strong enough; that possibly it may be necessary to use an anæsthetic and employ a current strong enough to verge on cauterization. These points could be decided only after further investigation.

PROFESSOR W. E. CASSELBERRY said he considered the report an extremely interesting one, and suggested that the experiments be carried further; to ascertain if the galvanic current has any effect in softening the false membrane outside of the body.

PROFESSOR FRANKLIN H. MARTIN said he had used electrolysis for about three years in the treatment of strictures of the urethra, stenosis of the uterine canal, chronic inflammatory exudations surrounding the uterus, and in fibroid tumors. In listening to this interesting report the question occurred to him whether the effect of loosening the croupous membrane could be attributed to the electrolytic effect of the current of electricity, or merely to the mechanical effect of the electrode. Electrolysis describes the terms upon which it acts; in the case reported we get no evidence of this action. He should be inclined to attribute any beneficial effect that might have occurred to a counter-irritant effect of the positive sponge electrode that was situated externally. In regard to the power of electricity to dissolve substances similar to the exudate found here, he should judge from experience that it possesses that power. He had been told that a current of electricity passed through a culture of bacteria had the effect of destroying the life of the germs. May this not explain an action that might be worth considering in troubles similar to the one under consideration?

DR. J. FRANK suggested that if the author had used a weaker current he would have had a better result. In stricture of the urethra five cells of the McIntosh battery, with the fluid reduced one-half with water, are used. Twelve cells could hardly be borne on the skin. It would dissolve the membrane and produce inflammation.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, December 20th, 1886.—THE PRESIDENT, EDMUND J. DOERING, M.D., in the chair.

PROFESSOR HOSMER A. JOHNSON read a paper on PSEUDOMEMBRANOUS BRONCHITIS, which appeared in the January number of the JOURNAL AND EXAMINER.

The record of statistics shows that a large majority are of a partial character, involving but a limited portion of the bronchial surface, and these, though obstinate and apparently difficult to relieve, usually recover. It is stated, also, that there is more than an ordinary tendency to involve ultimately the fibrous tissue of the lung and bring on that form of phthisis.

In regard to the treatment, he had nothing specially new to offer. He found that the chronic form was most benefited by ordinary anodyne expectorants combined with alteratives, especially of the mercurial class.

PROFESSOR ROBERT H. BARCOCK said the paper is one of the most interesting he had listened to. It was needless for him to say, since such a man as Doctor Johnson has seen but one case, and such a man as Doctor Bowditch has never seen a case, that he had never seen one. In regard to the etiology, he would merely state that R. Douglass Powell says this form of bronchitis may be observed in all ages from childhood to old age. He differs from the author of the paper in saying that it is more frequent in females than in males. He mentions the probability that there is a hyperinotic condition of the blood. The line of treatment pursued by Doctor Johnson is interesting with regard to this point; after giving iodide of potassium and the mercurial salt in pretty full doses the character of the expectoration changed, becoming mucous and frothy, and it was not until these remedies had been given up and syrup of iron substituted that the plastic character of the bronchitis reasserted itself. May it not be that the exhibition of the potassium iodide and the mercurial salt did overcome to a certain extent the hyperinosis which may have existed in this man's case?

PROFESSOR S. D. JACOBSON said it had been his good fortune to see, besides this instance of the chronic form, which he saw through the courtesy of Dr. Johnson, one case which represented the acute form of this disease. It was a friend of his, a man of about 47 years of age, who was accustomed to take great quantities of alcoholic stimulants. In the winter of 1871 he came to him and complained that for several days he had had some trouble with his pharynx, and he had expectorated a large amount of mucus. He inspected his pharynx and found a condition such as might be expected from a man who was out of doors a great deal, who was an inveterate smoker and a very convivial man. There were no symptoms of diphtheria; it was a case of pharyngitis or tonsillitis. Under the usual treatment it improved in a couple of days. About a week after he sent for Doctor Jacobson, and he found him with some fever and a very distressing cough. He expectorated great masses of mucus, which were recognized as casts of bronchial tubes of the first and second order. At that time he had never heard of such a case. The next day he found him in great distress, and after a long and tiresome cough he brought up numerous quantities of matter like the first casts observed, which were found to be of the third and fourth order of bronchial casts, and after that he felt relieved, but died on the third day afterward. He then saw a report in the

*Scandinavian Medical Archive*¹ describing a case exactly similar to this, except that the man was 34 years of age. On post-mortem it was found by incising the chest that it contained air over both lungs, and the bronchial tubes of the first, second and third order all contained casts. The lung contained air mixed with mucus and pus. The trachea contained casts which terminated on the under surface of the epiglottis. The physician questioned whether it was an ascending bronchitis or a descending fibrinous exudation from the pharynx downwards, because in this case, as in his own, there had been tonsillitis about a week before the alarming symptoms set in, but arrives at the conclusion that the disease was primary in the bronchial tubes. He had thus been fortunate enough to observe this rare disease in two cases, one representing the chronic, the other the acute form, and both of them conforming to the rule laid down by Doctor Davis, that the acute generally terminates fatally, while the chronic in many cases terminates favorably. Both of his cases were of the male sex, and both were rather given to alcoholic stimulants.

PROFESSOR E. FLETCHER INGALS said he had had very little experience in these cases. It has never been his bad fortune to meet with a case of acute diphtheritic bronchitis, except those growing out of ordinary diphtheria, which are unfortunately frequent. He had treated three cases of the chronic form of the disease, none of them very severe. In each case there was from time to time expectoration of the croupous deposit, but he did not see them at any time when they were very ill. The history of the chronic cases is that they will have acute attacks from time to time for months or years, running from ten days to two weeks. They almost universally recover from these, though occasionally they die of phthisis. The acute cases, as a rule, die, though from 25 to 50 per centum are said to recover. A friend in the country sent him last winter casts from a large number of the bronchial tubes in which there must have been five or six branches to the casts. They had been coughed up by a patient of his who subsequently recovered.

DR. C. M. FIRCH said some eight years ago he had a case of this kind in a lady about to be confined. When he first saw her she was in an almost comatose condition, the face livid, and she was almost pulseless, the respiration fearfully obstructed, although air was entering all the larger bronchi. The woman died a few hours later, the child being born after she had become entirely unconscious. Four or five days later a child of the same family was taken with diphtheritic croup, the membrane passing down through the larynx, when Doctor Fenger performed the operation of tracheotomy. He had no doubt that the lady's case was one of acute croupous bronchitis.

PROFESSOR JOHNSON, in closing the discussion, said, in reply to Professor Babcock as to the influence of the potassium and mercurial salts upon the exudate, not only was the expectoration frothy, but after using these medicines for some time the casts became thin and evidently diminished in amount before they were thrown off. It was his opinion that the mercurial salts and the potassium had some influence in diminishing the amount of the exudate. It be will remembered that from some time in December until February there were no casts thrown off. Some time before that the patient had been taking potassium and mercurial salts. In estimating the frequency of this disease, he had excluded cases which seemed to be of diphtheritic origin; he had seen several cases where there had been well-marked casts thrown off; in one case there were seven successive discharges from the bronchial ramifications of one lung. Those were diphtheritic and were from a child who was recovering from bronchial diphtheria. He does

¹ Vol. iv, fasc. 4, 1872.

not say that this is not in its character anything like diphtheria, but he thinks there is a radical difference between the membrane and that which forms in diphtheria. It does not seem to him that we have the same tendency of disintegration that we have in diphtheritic forms of exudation; the exudate is more plastic. He had purposely not discussed the acute form, as he had not had an opportunity to study such cases. The notes here recorded were made in the presence of the patient, and they seemed to him worthy to be put on record.

PROFESSOR H. A. JOHNSON read a paper on

PNEUMATIC DIFFERENTIATION AND MEDICATION,

which appeared in the January number of the *Journal and Examiner*.

PROFESSOR E. FLETCHER INGALS asked Professor Johnson if he thought the patient would get more of the medicated vapor into the lungs with the compressed air than with ordinary air.

PROFESSOR H. ROBERT BABCOCK said it has always been his opinion that pneumatic differentiation is essentially the same as the administration of compressed air, and he had not found reason to change his opinion. However, in justice to the inventor, he would like to ask Professor Johnson what he thinks of Mr. Ketchum's assertion that the rarefaction of the air around the chest of the patient by lessening atmospheric pressure allows the chest, and therefore the residual air, to expand, and with this expansion of the residual air lessens the resistance to the tidal air. In other words, that if the residual air did not expand, the tidal air would meet with resistance from the residual air as from an air-cushion; also that this expansion of the residual air tends to force out any little plugs of mucus which may have obstructed the bronchi; that in this respect pneumatic differentiation certainly accomplishes more than could be done by the inhalation of compressed air.

PROFESSOR JOHNSON said the claim of a special value in the cabinet as a means of differentiation is based upon a fallacy, viz., the assumption of a *vis a fronte*. If you take the pressure off from the outside of the chest there is a kind of force that drives the fluids to the surface of the body. Suppose you reverse the case, place the patient outside and let him breathe the rarefied air, is there a *vis a fronte*? It certainly seemed to him that there is no such thing. It is a *vis a tergo* that pushes air into the lungs, and a *vis a tergo* that pushes the air out of the lungs, and the equilibrium is maintained. As to the effect of the rarefied air in the cabinet upon the residual air, it is about the same as going up and down in an elevator of one of our tall buildings. In answer to Doctor Ingals it would seem to him that more spray may be carried into the bronchial tubes in the stream of condensed air than in air inhaled without differentiation of pressure. The discussion is simply upon physiology and physics, not the value of pneumatic differentiation. Mr. Ketchum or some one connected with him, invented that term, but the thing itself, taking the name away, is by no means new.

DR. FRANKLIN H. MARTIN read a paper on

ELECTROLYSIS IN THE TREATMENT OF FIBROID TUMORS OF THE UTERUS, with a description of Doctor Apostoli's methods.

He considered his subject under the following heads:

1. Consideration of the tumor.
2. Means of generating a current.
3. Electrodes, connections and other apparatus.
4. Electrolytic action of the current.
5. Cataphoric action of the continuous current.
6. The difference in the local action of the two poles with powerful currents.

7. Operation and details of application, with a description of Doctor Apostoli's methods.

He divided fibroid tumors of the uterus according to their position, into submucous, interstitial and subperitoneal, according to their condition into hæmorrhagic and non-hæmorrhagic. Any means of generating a continuous uninterrupted current of electricity of 1200 milliampere strength that is practicable will answer all the requirements for electrolytic treatment of fibroid tumors of the uterus. Professor Martin uses a battery composed of 115 crow-foot gravity cells for this purpose, from which he can easily get a current of three or four hundred milliampère strength when properly charged. Storage cells and the dynamo were mentioned as possessing a future for this kind of work.

The very strong current that one now used in operations of this kind is made practicable by improvements in electrodes and conduction. Doctor Apostoli overcame the pain caused by high tension currents by using as a surface electrode a thick paste of potter's clay spread upon the abdomen with proper connections from a plate of soft metal upon its free surface. This answers the purpose perfectly, but has the objection of being very troublesome and very inelegant. Professor Martin presented a decided innovation in this direction in the way of a surface electrode. From a soft plate of metal, the margins of which are bent so as to form a concavity upon one surface of an inch in depth, he has constructed an electrode by stretching loosely over this concavity an animal membrane, making the surface between the membrane and the metal water-tight. Through a stopper in the metal surface the inter-surface is filled with a warm saturated solution of chloride of sodium. This contrivance with its membranous surface upon the abdomen, with proper connections from the metal surface, possesses all the advantages of the potter's clay electrode of Dr. Apostoli, with none of its disagreeable features. The author has been able to use a current of 150 milliampère strength by means of the above electrode without producing the slightest discomfort. The internal electrodes include a uterine sound of platinum with the intra-vaginal portion insulated, a sharp probe of platinum and iridium with insulating sheath, and a number of needles insulated with hard rubber to within an inch of the point.

The electrolytic action of the current was dwelt upon at length and given its due prominence.

The cataphoric action of the galvanic current was described, and to its action the author ascribed considerable prominence as aiding absorption of the fibroid growths.

Galvano-caustique is the name given to the local effect of the two poles when used intra-uterine in the form of metal probes. This effect is considered a point of great importance by Doctor Apostoli, and from which he expects to see a great advance developed in the treatment of the hæmorrhagic fibroid tumors of the uterus. The effect referred to is only obtained from a current of 100 milliampère strength concentrated by means of an electrode of unattackable metal. The local effect of the two poles upon the lining of the uterus are distinctly different. The effect of the positive pole is to coagulate and harden the tumor that it comes in contact with without changing the vitality of the tissue. The effect of the negative pole is to cause a liquefaction of the tissues in which it comes in contact, with considerable destruction of tissue.

The coagulating effect of the positive pole is utilized in transforming the hæmorrhagic surface of the endometrium into a dry, coagulated surface that will not allow of a hæmorrhagic exudate.

Three operations or methods of application of these powerful doses were described in detail.

1. Intra-uterine *galvano-caustic*.
2. Negative cervical galvano-puncture.
3. Galvano-puncture or needle-operation: (a) extra-peritoneal; (b) intra-peritoneal.

The first operation (intra-uterine galvano-caustic) is employed for two effects: 1st, to check excessive hæmorrhage by the local effect of the positive pole upon the endometrium; 2d, for the reduction in size of the tumor by the electrolytic action of the powerful current as it passes through the tissue of the tumor.

The second operation (negative cervical galvano-puncture) is performed for the purpose of establishing an artificial channel into the substance of the growth, to take the place of the cervical canal that has been distorted or obstructed to such an extent that it cannot be entered for the ordinary intra-uterine treatment. The effect sought here is the reduction of the tumor.

The third operation described by the author of the paper was the galvano-puncture, or needle-operation proper. This is for the treatment of large sub-peritoneal fibroids that can only be reached by means of needles, and the electrolytic action only of the current is expected.

The author offered the following summary of conclusions:

1. A means of generating a continuous current of electricity which can be increased from 10 to 250 milliampere strength is necessary in order to obtain all the effects of the electrolytic treatment of fibroid tumors of the uterus.
2. The most distressing hæmorrhages from fibroid tumors can be healed by the local coagulating effect of the positive pole if applied intra-uterine.
3. The intra-uterine electrode, when positive, should be of unattackable metal and should conform, as nearly as possible, to the size and shape of the uterine canal, and have the intra-vaginal portion insulated.
4. When the cervical canal cannot be entered, a negative galvano-puncture should be made into the presenting part of the obstructing mass of the tumor, and an artificial channel created which is to take the place of the impenetrable uterine canal in all subsequent treatments.
5. The intra-uterine electrode should in all cases be negative, unless there is hæmorrhagia or excessive leucorrhœa, when the positive pole is required.
6. The strength of the current should be the strongest possible consistent with the desired therapeutic effect, and the toleration of the patient.
7. Cases of intolerance of high doses arrange themselves under the three following heads: 1, acute hysteria; 2, acute enteritis; 3, acute metritis, peri- or pari-metritis. The most tolerant are the deep uteri and profusely hæmorrhagic.
8. The ordinary duration of the séance should be about eight minutes.
9. The number of operations are necessarily dependent upon and influenced by the result to be accomplished. A severe hæmorrhagia can be checked in from four to five treatments, while a general reduction of the tumor necessitates many, varied, of course, according to the size and location of tumor. In many cases simply a restoration to health and a relief from the prominent and annoying symptoms must be accepted as the substitute for an actual cure.
10. The time of commencing treatment matters little if the tumor is not rapidly growing and no excessive hæmorrhage is present. The operation should be intra-menstrual, if possible, but if hæmorrhage is continuous, operate during flow.
11. Extra-uterine puncture should be regarded only as a last resort; but every means of reaching the tumor through the uterus being impracticable.

ble, seek, if possible, to make the operation extra-peritoneal; should this, in turn, prove equally undesirable, use as a final alternative the abdominal puncture.

12. Strict antiseptic precautions should be carried out in this treatment, as in all others.

DR. H. T. BYFORD said he wished to express his admiration of the mastery which Doctor Martin has acquired over this method of treatment. It will undoubtedly take an important place among the surgical remedies for uterine fibroids. But the usefulness of any remedy must be determined not only by its effect, but also by its safety and convenience of employment. For instance, the radical treatment or removal of the tumor, is a frightfully severe measure, and is reserved for cases that cannot be cured in any other way, while removal of the appendages is attended with considerable risk of life, and is reserved for those cases which cannot be helped by less dangerous means. So also this electrolysis, which is difficult of application and capable of harm, must be reserved for cases which cannot be cured by remedies more convenient and less hazardous. But before this, the safest of surgical procedures, can become the usual treatment for such cases, it must prove more efficacious than the still safer medicinal treatment. Fibroid tumors with hæmorrhage are the ones also most benefited by ergot and tampons in the majority of cases, and after the hæmorrhage is thus relieved there is no hurry in resorting to surgery. As to the effect of this treatment on the tumor itself, the evidence is not all in. The success of Apostoli, whose persistence is very praiseworthy, has been somewhat limited with regard to the removal of the tumor. The success of the so-called electrolysis upon fibroids seems to be no better, if as good as that of ergot, and it is doubtful if it is produced in a very much different way. That electrolysis can break up the chemical constituents of a living tumor for any considerable distance from the electrode, without destroying the life and absorbing properties of the tissue in the course of the current, is a theorem that requires more than mere mathematical demonstration. We all believe, however, that it can stimulate the uterus to a contraction and partial strangulation of the tumor, and also stimulate the absorbents to remove it, and are prepared to have it proven to us that it will do so in many cases in which ergot fails. But it happens that the cases in which ergot is of the least use are those in which electrolysis is of most difficult application—the subperitoneal. And yet he has, as a rule, relieved the symptoms of the subperitoneal variety (excepting those immense neglected ones too large for anything but removal) by ergot, which, even when it cannot cause compression of the tumor, can diminish its blood supply. He hopes and believes, however, that the methods of Apostoli will enable us to manage safely cases that must otherwise require a dangerous operation.

PROFESSOR WILLIAM T. BELFIELD said: Doctor Martin has conferred a favor upon us in bringing Apostoli's method before us. During the last twenty-five years various attempts have been made to reduce fibroids of the uterus by the galvanic current; yet none of them have been recognized as successful, because, doubtless, as Doctor Martin very properly says, the current has been used in an ignorant, inaccurate and bungling way. Apostoli's method is unique in the strength of the current used, as well as in the accuracy of its application to the uterus; whether this method will produce satisfactory results remains, as it seems, to be seen, for Apostoli himself has been guilty of the gross inaccuracy which necessarily impairs the confidence claimed by his statements. Through Doctor Martin's kindness he had an opportunity to read Apostoli's book in which are set forth his methods and the results of treatment on ninety-eight patients. The book bears the impress of perfect candor and truth,

and yet, in looking through the ninety-eight cases which he records as fibroids of the uterus, most of which were benefited, it is evident that nearly all were not fibroids, but were cases of subinvolution. Many of them were women under 30 years of age belonging to the poorer classes, and who were unable to secure proper rest and care after confinement. The clinical history as well as the physical examination recorded by Apostoli shows that they were plain cases of subinvolution. That the electric current has a value in such cases is unquestionable and has often been demonstrated, but it is not accurate nor justifiable to apply the results obtained in treating subinvolution to the treatment of fibroids, for the distinction between subinvolution and myoma is as sharp anatomically and etiologically as it is clinically. It seemed to him that only four of Apostoli's cases were evidently and certainly uterine fibroids; it is possible that six others might be so reckoned, but certainly eighty-eight of the cases were, so far as can be judged from the record, cases of mere subinvolution. Yet the results secured in these four cases were most positive and decisive. In two of them the tumors were of enormous size. These two patients had been seen by Pean, whose opinion was sought as to the advisability of operation. In one case he declined to operate, on the ground that the patient could not survive an operation; in the other he was ready to operate, but the patient declined. Yet both of these cases of undoubted and extensive myomata were rapidly and greatly improved and the tumors reduced under Apostoli's treatment. But four cases are not enough to justify a generalization, and we may hope that Doctor Martin will soon favor the Society with the results of the method in his own hands, for we may be sure that he will avoid the sole error which can be charged against Apostoli.

PROFESSOR P. S. HAYES said he had not given this matter a trial in fibroid tumors, but had in the use of electricity generally. There are two factors in the treatment of fibroids by electrolysis—the chemical and physical and the physiological. How the physiological action of electricity operates is a question, but the chemical and physical produce their effect by the splitting up of compound molecules and the chemical and physical liberation of gases at the poles. Certainly this factor (the chemical and physical) can be measured by the amount of chemical work done, which depends upon the strength of the battery, etc. He said it seemed to him that a current even of 50 milliamperes is rather strong to use in the beginning. He had had quite an extensive experience, and could call to mind six or eight cases in which even the slightest galvanic current would produce dizziness so that the patient would have to lie down for half an hour. In one case in which only a half a dozen of cells were used, the patient left his office staggering like a drunken woman, and finally had to go in some place and rest. Afterwards he was unable to treat her except by allowing the current to traverse a very minute portion of her body. An induction apparatus the helix of which consists of thick wires and in which the current is generated by a battery of very large surface, gives a current which resembles somewhat the interrupted galvanic current; it stands midway between the ordinary induced current and the interrupted galvanic current of eight or ten cells. This current, applied over a tumor sufficiently strong to produce vigorous contractions, will reduce the size of a fibroid when ergot has failed to do so, and apparently in the same way, by inducing forcible uterine contractions and contractions of the abdominal muscles, tending to astringe it and squeeze out the life-blood which enters into it. It seemed to him, from his experience, that the injection of a few minims of 95 per centum carbolic acid into the tumor would produce a very similar local result to that produced by either the positive or negative pole. In the *Medical Record*, of recent date, he had seen an abstract of the last paper of Apostoli in which it states that, while he has reduced fibroid tumors in size, relieved the dis-

troubling symptoms and made the patient very much better, yet he does not claim that he has ever absolutely removed a fibroid so that it could not be detected. This method of treatment seems to offer a good deal of hope in many cases where other means have failed, and he would not hesitate to try it himself and recommend others to do so.

PROFESSOR H. MARTIN, in closing the discussion, said he could not agree with Doctor Byford that this method of treating fibroid tumors should be reserved as a last resort. In careful hands it is entirely free from danger, pain, and (except in the last variety of operation described this evening) all disagreeable features, and it should not, therefore, be postponed until less efficient and more objectionable means have been employed, such as the hypodermic injection of ergot, its administration internally in large quantities, tamponing the vagina, cauterization of the uterine mucous membrane, and innumerable other less efficient means of relief. In his experience with the strong current he had never yet seen an untoward result, and he had employed currents varying in strength from 25 to 250 milliamperes. Apostoli's method should especially be adopted early for the checking of hæmorrhage from the uterine cavity. He could not agree entirely with Doctor Belfield's conclusion in regard to Doctor Apostoli's results as reported in 1884.¹

¹That Doctor Belfield is in error in regard to this point will be made very apparent by the following summary of the cases reported by Doctor Apostoli and referred to by Doctor Belfield: 94 cases were reported; 15 of the cases had never borne children. Of the remaining 79 cases, where subinvolution of the uterus was possible, we find 4 pedunculated subperitoneal tumors in which error of diagnosis was not probable. Of the remaining 75 cases, 9 measured from 10 to 21 cm., and the accompanying descriptions of the cases can leave no doubt in an unprejudiced mind in regard to their being large fibroid growths. The full description in detail of the remaining 66 will convince anyone who will take pains to peruse them, that at least 44 are well defined fibroids. This leaves but 22 cases of the 94 reported in which there are not distinctive characteristics described, which definitely distinguishes them from simple subinvolution of the uterus.

His own results had been such as to make him very sanguine in regard to the value of strong currents for the relief of these difficulties, but as the object of the paper is the discussion of the method, and not the results, their consideration would be postponed until another time. He had never seen troublesome dizziness occur in the use of these currents in treatment about the abdomen.

BOOK REVIEWS.

EIGHTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF ILLINOIS, WITH AN APPENDIX. *pp. cxx, and 556.*

This is one of the most important reports of its kind ever issued in this country, and is itself sufficient evidence that the total expenditures of the Board for the year, viz: \$12,831.26, were well invested.

Under the heading, "Medical Education," the Board reports very satisfactory progress.

There is not only a decided improvement in the standard and methods of education among the medical colleges of the United States, but there is also a gradual diminution in the number of students in attendance. The number of medical students attending the sessions of 1881-2, was 13,088, those of 1884-5 was 12,002, a loss of eight per centum. The number of medical graduates in 1881-2 was 4,500, and in 1884-5, 3,831, nearly sixteen per centum less. The Board attributes this condition of medical affairs to three causes, viz:

First, "hard times" and an increase in the number of students in attendance upon the Canadian schools. Second, a general and increasing desire on the part of the profession to elevate the standard of attainments necessary to enter its ranks. Third, the enforcement of certain requirements in states which have enacted laws regulating the practice of medicine. In this connection, the following facts taken from the reports of the per-centage of graduates to matriculates, at the colleges of the United States and Canada, is interesting: In Canada, the lowest is 6, the highest is 23. In the United

States the lowest is 12, the highest is 58.8, and nine of the colleges have a per-centage above 40. Among the states, Indiana, with a total of six colleges, has an average per-centage of 41.33, which is decidedly the worst showing. A comparison of the requirements for admission and graduation, shows the per-centage of graduates to matriculates highest in those colleges where the standard is lowest.

The contents of the appendix embraces: A, Report on Disinfection and Disinfectants; B, Coast Defenses Against Asiatic Cholera; C, Report of Proceedings, Sanitary Council of the Mississippi Valley; D, Meteorological Tables; E, State Sanitary Survey and House-to-house Inspection; F, Vital Statistics of Illinois, and Coroner's Inquest; G, Medical Education in the United States and Canada, 1765-1886. Of these *A* is the report of the Committee on Disinfectants appointed at the twelfth annual meeting of the American Public Health Association. It is very complete and of great practical value, but cannot be summarized in this notice. *G* contains an enumeration of all of the medical schools which exist or have existed in the countries mentioned, together with a statement, made out by the authorities of the institution reported, of the requirements for admission and graduation, and of their teaching force and facilities for instruction.

The titles of the other articles in the appendix explain themselves. A limited number of copies of this, and also of the seventh annual report, are still in possession of the Board and may be obtained by physicians who apply for them through their senators or representatives. E. W.

ITEMS.

The publication of the *Neurological Review* has been indefinitely suspended in consequence of the impaired health of its editor Professor J. S. Jewell.

The *American Journal of Biology*, edited by Dr. H. D. Valin, has recently been started in this city.

Another new medical periodical, called *The Medical Standard*, has recently made its appearance in this city. The name of the editor is not given, nor does it announce how frequently it will appear. Its publishers are J. P. Engelhard & Co. It is very neatly issued, on good paper, and with exceptional typographical accuracy.

A new dental journal, called *The Dental Review*, has been added to the list of recent publications in this city. Its editor is not announced. It is published by W. T. Keener.

Dr. N. S. Davis, on the 20th of January, completed the semi-centennial of his entry into the medical profession, and on that occasion he was the recipient of quite an ovation from the students of the Chicago Medical College, who assembled in the college, and, in the presence of many mutual friends, presented to their respected teacher and their firm friend, as a token of their appreciation of the man and his manifold works, a beautiful set of library furniture, with an inscription commemorating the occasion. An appropriate address of presentation was made, to which Professor Davis replied in terms which showed that he appreciated both the motive and the gift, and pointed the way to others who are preparing to enter the profession to do good to the world; to make their fellow-men better and happier, and to earn the rewards of a well-spent life, such as he himself must now be enjoying.

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No. 3

ORIGINAL COMMUNICATIONS.

STROPHANTHUS (HISPIDUS), ITS PHARMACOLOGY AND THERAPEUTICS. *By* CHARLES W. PURDY, M.D. *Professor of Renal Disease at the Chicago Polyclinic.*

Strophanthus is a climbing plant belonging to the natural order of the *Apocynaceæ* and is indigenous to equatorial Africa. The seeds are the most active part of the plant, and when finely ground and made into a paste, are used by several African tribes as an arrow poison. Strophanthine, the active principle of the plant—a crystalline glucoside—is present in the leaves and bark, but to a much less extent than in the seeds.

Attention was first called to the pharmacological action of strophanthus by Pélikan, of St. Petersburg, in a communication to the Academy of Sciences, of Paris, in 1865. During the same year reference was made to it in a note to a paper on certain heart poisons by Fagge and Stevenson of London.

We are chiefly indebted, however, to Prof. Thomas R. Fraser of Edinburgh, for bringing this agent prominently before the profession. At the meeting of the British Medical Association held at Cardiff in June, 1885, Professor Fraser in a most

interesting paper*—the result of fifteen years' observations upon man and the lower animals—first clearly pointed out the physiological action of the drug. While ranking *strophanthus* with the *digitalis* group as one of the muscle poisons which act, not only upon the heart, but also upon all striped muscular fiber, he also pointed out certain essential differences between the action of *strophanthus* and that of other members of the group on the circulatory apparatus.

Chief among these differences, and one which is likely to prove of the greatest value therapeutically, is the fact that while *strophanthus* acts upon the cardiac muscle, even more powerfully as a stimulant than does *digitalis*, yet the former exerts little or no influence on the arterioles.

It has been conclusively proven by numerous experiments upon frogs, rabbits, etc., that *digitalis*, while it increases the power of the heart's contractions, also acts as a powerful vaso-constrictor on the arterioles. It is the latter action of *digitalis* which renders it valuable in the early stages of inflammations. It narrows the channels of the blood in its peripheral distribution, thereby reducing arterial congestion; it also in contracting the vessels (arterioles) restores their lost tone and diminishes the permeability of their coats, thus checking the migration of corpuscles, and the effusion of inflammatory products into the surrounding tissues. But while *digitalis* acts so happily in controlling many early inflammations, notably those situated in certain structures of a more or less spongy consistence, as the kidneys, lungs etc, yet this same powerful vaso-constrictor action on the vessels increases the labor of the heart by impeding the arterial circulation, and throwing back upon the heart a greater column of blood, the force of which must be met and overcome by the cardiac

*See British Med. Jour. Nov. 14th, 1885

muscle. Now it is readily conceivable how when the cardiac muscle has begun to yield to the weakening influence of organic change—the ultimately legitimate result of every cardiac hypertrophy if only it lasts sufficiently long—and more especially when the aortic valves become incompetent, that the use of digitalis not only hastens the course of the cardiac disease, but it also greatly increases the danger of sudden death. The greater column of blood regurgitating into the left ventricle, backed by a more rigid and unyielding arterial system, more quickly causes the muscular fibres of the ventricle to yield, and thus dilatation is hastened. In addition to this, the increased force of the blood-column resting within and against the ventricle, requires a much slighter re-enforcement (such as may result from a muscular effort) to give it an impetus, the force of which is greater than the ventricle is able to overcome, in which case death becomes the almost instantaneous result.

Valuable as digitalis undoubtedly is in many cardiac affections—especially if the ventricles be strong, and the valves guarding the exit from the heart, the aortics, be intact; yet many careful observers have learned from experience its dangers in the opposite conditions, and have been casting about for some agent which will add strength to the cardiac muscle without lending an additional burden to be borne by the weakened heart. Happily in *strophanthus* such an agent now seems to be supplied.

In further distinguishing between the physiological action of digitalis and that of *strophanthus*, Professor Fraser has stated that the latter acts upon the heart the more rapidly as well as the more powerfully of the two. From considerable clinical experience in the use of *strophanthus* I must add my testimony to that of Professor Fraser's upon this

point. From a series of experiments conducted with full doses of tincture of strophanthus—10 minims—I have found pretty uniformly that the sphygmograph indicated a considerable increase of cardiac power in one hour after the administration of the drug; that it reached its maximum in from one and a half to four hours; that the increased power was well maintained from a single dose for eight hours; and that it did not lose its entire effect for twenty-four hours, and often for a longer time. The temperature under the tongue, according to my own observations, begins to fall in about one hour and a half after a 10-minim dose of the strophanthus tincture, and in two hours it usually marks a half to three-fourths of a degree Fahrenheit reduction, maintaining pretty uniformly the above fall for from six to ten or twelve hours, and in some cases longer. I have observed no gastric or intestinal irritation from the use of strophanthus, although I have given it in moderately full doses—5 to 7 minims of the tincture—for several weeks continuously. Given as above, it has slowed the pulse down as low as 60 beats in the minute. In one case, after its continuous use for a month in pretty full doses, the heart suddenly took on a very rapid action, reaching 150 pulsations per minute. This abnormal rapidity of the heart's pulsations gradually subsided, reaching nearly the normal in about three and a half hours. There was no cardiac pain observed, which is so frequent an accompaniment of the over-action of digitalis.

For comparative purposes, Professor Fraser has conducted experiments upon the frog's heart, by supplying it with solutions both of digitaline and strophanthine by means of Williams' apparatus. He found that a solution of digitaline,

1 part in 4,000, was not sufficient to kill the heart; while on the other hand, the enormous dilution of strophanthine of 1 part in 10,000,000 was strong enough to kill (arrest) the heart. A solution of one part strophanthine in 6,000,000 produced complete stoppage of the heart's contractions in extreme systole in twenty minutes.

With regard to the action of *strophanthus* on the vessels (arterioles) Professor Fraser employed solutions of digitaline and strophanthine upon the frog after destruction of the central nervous system. In the case of digitaline, 1 part in 20,000, produced in six or seven minutes such extreme contraction of the vessels as to arrest the circulation through them.

Substituting strophanthine for digitaline, 1 part in 20,000, had no effect upon the vessels, and when the strength was increased to 1 part in 2,000 but a temporary effect was produced, which soon subsided.

A patient of mine, suffering from advanced mitral and aortic disease, was given a single dose of 10 minims of the tincture of *strophanthus*, the patient remaining quietly in bed for some time before, and during the whole time of observations no medicines nor stimulants were given save the *strophanthus*. Before the *strophanthus* was administered the pulse was 78 per minute, the respirations were 18 per minute, and the temperature under the tongue was 98.5° F. The following tracings were taken (Figs. 1 and 2):

In Fig. 1 just sufficient pressure was applied— $\frac{1}{2}$ ounce—to give the greatest freedom of movement to the lever. It will be observed that when the pressure upon the artery was increased to 2 ounces, the tracing became almost

reduced to the respiratory or base line, so weak was the muscular power of the ventricle.

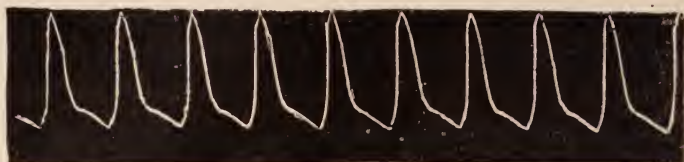


Fig. I.— $\frac{1}{2}$ ounce pressure.



Fig. II.—2 ounce pressure.

One hour after the 10 minims of strophanthus tincture was given the pulse was 75 per minute, the respirations were 16 per minute, and the temperature under the tongue was 98.5° F. The tracings 3, 4, and 5 were then taken.

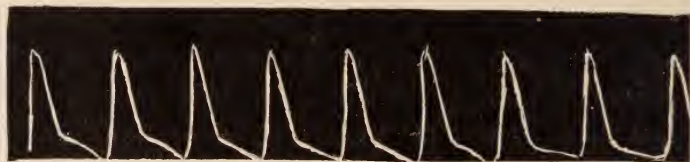


Fig. III.— $1\frac{1}{2}$ ounce pressure.



Fig. IV.—2 ounce pressure.

It will be observed (Fig. 4) that two ounces pressure upon the artery scarcely modified the tracing, that even $2\frac{1}{2}$

ounces pressure (Fig. 5) failed to materially lower the apex of the tracing, so markedly increased had become the power of the ventricular contraction.

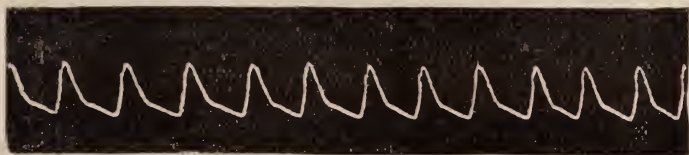


Fig. V.—2½ ounce pressure.

Two hours after the 10 minims of strophanthus tincture was given, the pulse was 72 per minute, the respirations were 18 per minute, and the temperature under the tongue was 97.8° F.; the temperature had therefore fallen .7° F. in two hours. The following tracings were then taken:



Fig. VI.—2 ounce pressure.

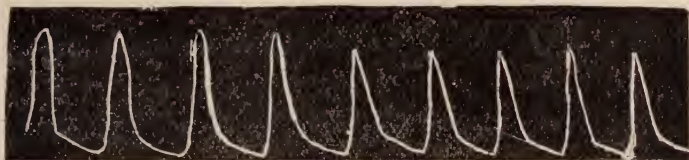


Fig. VII.—3 ounce pressure.

It will be observed (Fig. 6) that under 2 ounces pressure (which before the strophanthus was given nearly reduced the tracing to the respiratory line), the freedom of the lever was now scarcely modified, and that even 3 ounces pressure

upon the artery (Fig. 7) but little modified the height of the tracing.

Three hours after the 10-minim dose of strophanthus was administered, the pulse was 72 per minute, the respirations were 17 per minute, and the temperature under the tongue was 97.8° F. The following tracings were then taken (Figs. 8 and 9):

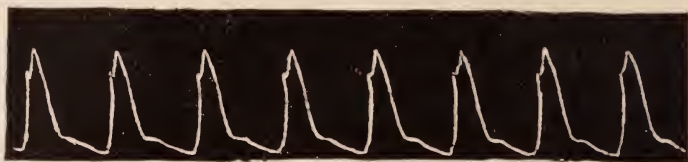


Fig. VIII.—2 ounce pressure.



Fig. IX.— $3\frac{1}{2}$ ounce pressure.

Four hours after the strophanthus was given, the pulse was 69 per minute, the respirations were 18 per minute, and



Fig. X.— $1\frac{1}{2}$ ounce pressure.

the temperature under the tongue was 97.8° F. The

accompanying tracings were then taken (Figs. 10 and 11).



Fig. XI.— $2\frac{1}{2}$ ounce pressure.

Six hours after administration of the strophanthus, the pulse was 69 per minute, the respirations were 18 per minute, and the temperature under the tongue was 97.8° F. The following tracings (Figs. 12 and 13) were then taken:

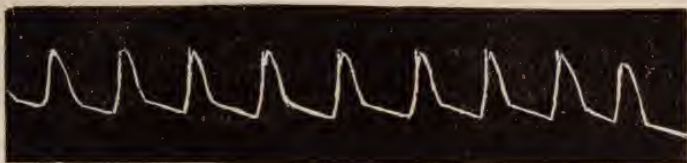


Fig. XII.—2 ounce pressure.

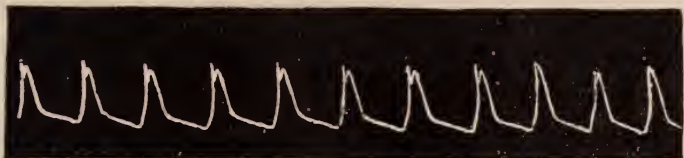


Fig. XIII.— $2\frac{1}{2}$ ounce pressure,

Eight hours after administration of the strophanthus, the pulse was 72 per minute, the respirations were 16 per



Fig. XIV.— $1\frac{1}{2}$ ounce pressure.

minute, and the temperature under the tongue was 97.6° F.

The accompanying tracings (Figs. 14 and 15) were then taken:



Fig. XV.—2½ ounce pressure.

It will be observed that at the end of eight hours after administration of a single dose of 10 minims of the tincture of strophanthus, the drug maintained a decided action upon the heart and temperature.

Although I have a large number of sphygmographic tracings of the pulse after the use of strophanthus, I have selected the foregoing case as probably the best one to illustrate the action of strophanthus upon the ventricular muscle for the following reasons: The case was one of grave aortic defect, and therefore the pressure upon the artery showed more plainly the increase of cardiac power induced by the drug than if the aortic valves were intact, for obvious reasons. It will be noted of the sphygmograms taken after the fourth hour from the administration of strophanthus that the tidal wave became very marked, showing a tendency to rigidity in the ventricular muscle in systole; the more gradual slope of the tracing following the aortic wave points to the same condition of the heart in diastole.

The action of strophanthus as a diuretic is scarcely less pronounced than as a cardiac stimulant; in fact the former depends upon the latter. I hope in a future communication to dwell more fully upon this part of the subject.

To sum up briefly then, strophanthus seems to act upon

the heart more powerfully and more rapidly than does digitalis. "In lethal doses it paralyzes the heart in rigid systole." It acts but slightly upon the vessels, and only in large doses. It lowers the normal temperature from .50 F. to .10 F. It causes a direct and marked rise in the arterial blood pressure, and thus acts as a diuretic.

With the foregoing data to guide us, the very practical question next presents itself, What are the therapeutic indications for the use of strophanthus?

There can be no question but that we have much yet to learn upon this point, and for what we already know we are largely indebted to Professor Fraser, as we undoubtedly are for our knowledge of the pharmacology of the drug.

Nearly a year ago I strongly advised* the use of strophanthus in the late stages of heart affections which so commonly accompany chronic Bright's disease (pp. 187), also in cardiac collapse common to scarlatinal nephritis (pp. 223), and lastly in so-called cyanotic induration of the kidney (pp. 279).

In the last named condition especially, where the venous system is over-distended at the expense of the arterial, I have found it the most useful of all agents. Of heart disease in general it may be said of strophanthus that if not always indicated, it is yet rarely if ever contra-indicated. In all weakened conditions of the heart then, if the cardiac muscle has not undergone organic change, strophanthus promises much. If the cardiac muscle has undergone fatty change, of course no agent is capable of restoring its power; but as the exact state of the cardiac muscle with regard to organic change can never be accurately, determined, save at the autopsy, we may

*Bright's Disease and Allied Affections of the Kidney. Philadelphia: Lea Bros. & Co. London: H. K. Lewis.

yet give strophanthus when the condition is suspected, and not without hope. It at least in all probability has the virtue of working no mischief.

Sir Andrew Clark has reported in a recent article in the *British Medical Journal* over 600 cases of valvular diseases of the heart, selected from his private practice, none of which lasted less than five and many of them over twenty-five years. It is significant that in a large number of the cases the patients went about their daily duties without regular treatment so far as drugs are concerned. This strongly suggests to me the necessity of at least using agents in cardiac affections which are not likely to work harm.

Mitral disease of the heart—either stenosis or insufficiency—is likely to furnish a most promising field for the therapeutic use of strophanthus. Given early it is likely to retard hypertrophy more efficiently than digitalis. Under the use of strophanthus the cardiac muscle is much less prone to pass into fatty change than under the use of digitalis, because in the former case the vessels remaining uncontracted permit a better supply of blood to, and consequently a better nourishment of, the cardiac muscle.

In threatened collapse of the heart's action from most causes strophanthus is strongly indicated; and in such cases it should be given sub-cutaneously in the form of strophanthine.

Strophanthus is perhaps the most promising agent we possess for the relief of cardiac dropsy with its usually attendant dyspnœa, both of which it often relieves with promptness and efficiency.

Strophanthus should not be used in acute inflammation, possibly excepting that of the lungs. Especially should its use be avoided in the treatment of acute nephritis accompanied by bloody urine.

Dr. Smith of Dublin,* while he considers *strophanthus* a valuable drug for controlling the heart's action, yet he does not consider it suitable for the use of every patient. I have noted in some cases that it seems to irritate the heart, though usually not unless full doses are administered.

For the benefit of those who are unfamiliar with *strophanthus* I shall in conclusion briefly consider the pharmacy of the drug. This indeed seems the more necessary since heretofore different strengths of the tincture have been put upon the market.

Professor Fraser originally advised the use of a tincture of the same strength as that of *digitalis*, i. e. 1 in 8. He now, however, advises for general use a tincture of the strength of 1 to 20. In my recent work on renal diseases I uniformly advised a dose of from 2 to 6 drops, basing my calculations upon Professor Fraser's original formula. According to his new formula the above dose should be increased two and a half times—5 to 15 drops. Professor Fraser now gives the following directions for preparing *strophanthus* tincture.†

"*Strophanthus* seeds, deprived of their comose appendices, reduced to powder and dried, 1 ounce or 1 part. Ether, freed from spirit and from water, 10 fluid ounces, or fluid parts. Rectified spirit, a sufficiency to obtain 1 pint, or 20 fluid parts.

"Remove entirely the stalks and comose appendices from the seeds, reduce the seeds to a moderately fine powder, dry the powder by exposing for twelve hours to a temperature of 100° or 120° F., and weigh. Pack in a percolator (the percolator being furnished with air valves, or being otherwise so constructed that the percolation may be arrested

* Year Book of Treatment for 1886, pp. 293.

† See British Medical Journal, Jan. 22d, 1887.

when desired), add ether until the whole of the powder is saturated, and a small quantity of the ether has dropped into the percolator; arrest the percolation for 24 hours, and then continue percolating slowly until the whole of the ether has been used. If the last ether percolate should not be almost colorless, use more ether."

"Remove the powder from the percolator; expose to the air, and break up any lumps after the ether has sufficiently evaporated; and continue the exposure, heating the powder, if necessary, to 100° or 120° F., until all the ether has evaporated, when a uniform, nearly white, dry powder may easily be obtained."

"Repack the powder in the percolator, add enough rectified spirit to moisten it thoroughly; arrest the further flow of the spirit, and macerate for 48 hours; and pass rectified spirit slowly through until twenty fluid pints of tincture are obtained.

"In this process, the preliminary extraction with ether is for the purpose of removing the large quantity of inert oil contained in the seeds, which, if present in the tincture, would cause it to become opalescent on the addition of water."

The above tincture is nearly colorless, having a very pale yellow tinge (not green), neutral in reaction and intensely and rather persistently bitter to the taste. It mixes unchanged with water, is not precipitated by tannin, but becomes opalescent upon the addition of ether. Solution of ferric perchloride intensifies its yellow color, and produces a slight haziness in the solution, and after some hours it turns a greenish yellow color. The dose of the above tincture is from 2 to 10 minims (5 to 30 drops). If tincture of stro-

phanthus be slowly propelled from an ordinary nipple medicine dropper it will drop from 2 to 3 drops to the minim, according to the size of the tube at its point.

In general the dose which has yielded me the best result. has been 4 to 6 minims, repeated about three times in 24 hours (every 8 hours). It is a useful method occasionally to suspend the use of the drug for 24 or 48 hours in order to more accurately determine its effects upon the heart. I have given 10-minim doses of strophanthus tincture (1 in 20) every 6 hours for two or three days without serious disturbances. The heart was, however, stimulated to rather violent though regular action; the ordinary paper for sphygmographic use (1 inch in width) not being sufficiently wide to take the whole stroke of the tracing lever.

Messrs. E. H. Sargent & Co., 125 State street, have kindly prepared for me a tincture of strophanthus according to the before described formula of Professor Fraser, and it is now kept in their stock. Parke, Davis & Co., of Detroit, have also furnished me with a tincture of strophanthus which has given satisfactory results.

163 State street.

GYNÆCOLOGICAL ANTISEPTICS, AND OTHER MEANS OF PREVENTING PELVIC INFLAMMATIONS. *By E. C. DUDLEY, A.B., M.D., Professor of Gynæcology in the Chicago Medical College.*

A CLINICAL LECTURE DELIVERED IN MERCY HOSPITAL.

Gentlemen:

Throughout the clinical course in gynæcology you have had opportunities of observing the manipulative features of numerous gynæcological operations, and you have therefore become familiar with operative methods. Now as the session is drawing to a close, I wish in a single lecture to present a concise resume of certain essential details which, although not distinctly operative, will yet materially aid you in securing union by first intention, and in protecting your patient against most serious, septic and inflammatory accidents. You are aware that the minor gynæcological operations are usually performed for the relief of maladies which are not often fatal, nor even always disabling, and yet these operations, if performed without proper precautions, may not only fail in union by first intention, but may even be followed by sepsis, metro-peritoneal inflammations, cellulitis, and sometimes even by death. Until very lately the statistics of minor gynæcological operations have contained so many discouraging results that the careful practitioner has often hesitated from fear, and has employed palliative and temporizing measures, however unpromising, to the exclusion of surgical measures however rational. You will recognize the importance therefore of any precautions which will render the minor operations and office manipulations comparatively free from danger. Doubtless you have already anticipated the subject

of this lecture, which is *Gynæcological Antiseptics*. You know that the essential object of antiseptics is cleanliness—not esthetic, but surgical cleanliness. To secure and maintain surgical cleanliness many antiseptic materials have been employed, of which the one generally approved is carbolic acid. A case in one of the wards lately gave us a striking illustration of the necessity of great care in making the solution. Some of the acid not being thoroughly mixed with the water settled to the bottom of the vessel from which a douche was given, and the pure acid passed through the syringe to the vagina, and its application produced a serious burn. The addition of 10 per centum of glycerine to the carbolic acid renders it more easily soluble. The strength of your solutions should be the same for gynæcological as for other surgical purposes. A saturated solution of boracic acid or a three per centum solution of salicylic acid, unlike the carbolic, is free from caustic properties, and is at the same time an excellent antiseptic. Permanganate of potassium in solution decomposes so readily that it is unreliable for antiseptic purposes. Solutions of corrosive sublimate may be conveniently made by mixing a 10 per centum alcoholic solution with sufficient water to make the required strength, which should be from 1 in 1,000 to 1 in 10,000. The stronger solutions are adapted to the cleansing of the hands and cutaneous surfaces, and the weaker for washing the sponges during operations. Corrosive sublimate tarnishes metallic instruments and destroys their plating, but has the advantage of being odorless, of not destroying the skin, and of being a reliable germicide. The ropy, stringy mucus plug which you have so often observed in the

cervix, and which is so difficult to remove, is readily coagulated by the application of a one per centum solution of corrosive sublimate to the cervical canal. This renders it easily removable, and it is also from a therapeutic standpoint an excellent application. For the washing of pus cavities you will find the peroxide of hydrogen, mixed with an equal quantity of water, a most satisfactory agent. It is especially useful in washing the bladder in cases of cystitis.

In all gynæcological manipulations you will recognize the importance of great caution to prevent the inoculation of one patient from another. The soap, glycerine, vaseline or oil for example, which is always kept by the operator's table for the lubrication of the fingers and instruments, is frequently contaminated with gonorrhœal or other virus, and may thus become the medium of infection. Neither the fingers nor the speculum therefore should be brought in contact with any of these lubricating substances unless they have been thoroughly cleansed of all vaginal and other secretions. Many a case of vaginitis, to say nothing of syphilitic infection, has been directly traced to the carelessness of the operator in this particular. Formerly the camel's-hair pencil brush and the sponge were employed as carriers of medicinal agents in making applications to the uterus. But you will readily appreciate the difficulty of keeping them properly cleansed and their consequent unfitness for repeated use. The surgical absorbent cotton now in general use may be wound upon an applicator or stick, or may be grasped in dressing forceps, and is admirably adapted for purposes of local medication or for wiping out the genital canal. It may be used in this way a single time, and then

destroyed. No special cleansing of the vagina and vulva is required for the ordinary office manipulation of these organs, except the vaginal douche, which the patient should be directed to use before coming for treatment. Interference with the interior of the uterus, however, is unsafe without more careful cleansing. Whenever the uterine cavity is to be digitally or instrumentally explored or treated, it is best to wipe out the vagina with dry absorbent cotton, and then with absorbent cotton saturated with a five per centum solution of carbolic acid with glycerine or a solution of corrosive sublimate 1 to 2,000. By this means the endometrium is protected against the entrance of septic matter, which otherwise might be carried in on the instruments from the vulva or vagina.

Preparatory to any operation on the genital tract or the abdomen, the field of operation and whatever may possibly be brought in contact therewith should be rendered surgically clean, and so maintained throughout the operation and during convalescence. These precautions apply even to the most trifling operations, which are by no means free from danger of fatal sepsis. Besides, however insignificant the proposed operation may be, it may become necessary to extend it beyond the limits of minor surgery. Frequently a seemingly minor operation in the beginning has ended accidentally or purposely in opening the abdomen or in some other serious procedure. Therefore the vulva should be thoroughly and repeatedly washed with tar soap and water, and during the week previous to operation the hot water vaginal douche should be employed twice daily each douche to contain a small quantity of castile or tar soap, except the last,

to be given just before the operation, and to be a solution of corrosive sublimate 1 to 4,000, or a 2 per centum solution of carbolic acid.

The ordinary practice of simply cleansing instruments after examination with water, or soap and water, is inadequate and unsafe. Esthetic cleanliness does not absolutely destroy the virus and prevent its instrumental conveyance from one patient to another, as many unfortunate women might bear witness. It is my universal custom to secure perfect surgical cleanliness in the following manner: First, let the instruments be carefully washed in the ordinary way; then let each instrument be thoroughly wiped over with absorbent cotton saturated with equal parts of carbolic acid and glycerine. This will require the use of two strong forceps, one in the left hand to hold the instrument which is being disinfected, and the other in the right to hold the cotton mop. When the instruments have been moistened with the acid in this way and the acid has been washed off with pure water, they are ready for use. If the instruments have been unusually exposed, as for example in a pus cavity, or if they have been in contact with specific virus, it is necessary to carry the disinfection absolutely beyond question by passing them slowly through the flame of a Bunsen burner or a spirit lamp before applying the carbolic acid. If they are to be used for abdominal section first wash them with ordinary soap and water, or, still better, boil them; then use the flame, then the carbolic acid, and then place them in a pan containing water which has been boiled and filtered or distilled. This water and the adherent acid makes an excellent solution in which the instruments may remain during the operation. Cleansing and disinfection of the operator's hands and nails is imperative, not only to guard

against the carrying of virus to the patient, but to prevent auto-inoculation by specific virus through some abrasion on the hand. The annoying presence of fæcal matter during an operation and its possible septic results may be avoided by giving a preparatory cathartic so early that its action may be complete before the operation. In order to render sponges free from foreign and septic matter, first thoroughly beat and wash out all the sand. This may require hours of patient labor. Then soak them over night in dilute hydrochloric acid to dissolve out calcareous matter, and after washing out the acid the sponges, which will then be much softer and more elastic, may be put away in self-sealing fruit jars containing a 5 per centum solution of carbolic acid or a 1 to 2000 corrosive sublimate solution. The solution in which the sponges are kept should be changed once a week. The boiling of sponges is an excellent antiseptic measure but it causes great shrinkage and hardening and very much lessens their absorbent properties. The silk for ligatures and sutures may be rendered thoroughly aseptic by boiling five minutes in pure carbolic acid and then for twenty minutes in a 5 per centum solution. The best Turner's braided silk treated in this way may be kept for months without injury in small wide-mouthed bottles. The braided silk is preferable to the twisted, because the latter may even be destroyed by boiling in pure acid.

The field of operation rendered aseptic in the manner already described may be kept so during the operation if attention be paid to the cleanliness of hands, sponges, instruments and other appliances. The occasional irrigation of the wound during the operation and especially while the sutures are being tightened is desirable, to secure perfect contact of the wound surfaces free from blood and other foreign bodies.

The object of the after treatment is to maintain so far as possible the aseptic condition.. At the end of the operation all particles of tissue and clots of blood should be removed and the parts thoroughly cleansed by the hot water vaginal douche, which should be repeated every twelve hours until several days after the removal of the sutures. After operation on the external genitals the douche should also be given after evacuation of the bowels or bladder. Schroeder and other German operators employ constant irrigation during gynæcological operations. This requires the patient to be in the dorsal position when the operation is intra-vaginal. Professor Englemann, of St. Louis, is one of the foremost American advocates of this method, which he fully described in a communication to the American Medical Association in 1885.

TREATMENT OF SEPTIC GYNÆCOLOGICAL WOUNDS.

Certain natural conditions are favorable to the healing of wounds of the cervix and vagina. The opposite vaginal wall in contact with the wound excludes the air and acts as a compress, and the vagina makes an excellent drainage tube. But the conditions after intra-uterine operations are less favorable, because the uterine canal is at an angle of about ninety degrees to the long axis of the vagina, and the cervical portion of this canal, naturally narrow, may have become narrower from disease. Therefore, secretions accumulating in the uterine cavity may not be easily expelled by force of gravity or by uterine contractions, but on the contrary may be confined and become infectious with inflammatory and septic results. The condition simulates that of a deep abscess at the end of a long

and tortuous sinus. On general principles the therapeutic indication is to cleanse the cavity and to keep it as nearly aseptic as possible by irrigation. Although this treatment is often followed by excellent results, it unfortunately is not free from grave objections, and often proves even more dangerous than the disease. Sometimes the stimulating presence of the irrigating fluid or of the canula through which it is injected causes the uterine walls to contract upon the instrument so forcibly that the return flow is impeded and the fluid passes into the fallopian tubes with excessive pain and possibly with grave inflammatory or septic results: moreover, intra-uterine injections without invasion of the fallopian tubes have many times been followed by painful uterine contractions, pelvic inflammation and death. They are therefore only to be employed when the canal throughout is sufficiently open to permit free outflow, and even then with great caution. To guard against obstruction of the outflow by contraction of the uterus upon the instrument it is necessary to use some one of the double uterine catheters, Mott's, Molesworth's, or Bozemann's for example, which have been specially devised for the purpose and which are similar in construction to Skene's double catheter for irrigation of the bladder.

The treatment of septic wounds in the uterine cavity involves some of the vexed questions in gynæcology. Intra-uterine sepsis may be indicated by the character of the discharge, by the pain, by the temperature, by the pulse, by physical signs, and by the history of the case, but it is often difficult to determine whether the disease is here confined or whether the wounded surface has not rather served as an

avenue through which bacteria have passed to the pelvic cellular tissue or to the peritoneum, and there produced results which not only could not be reached by intra-uterine treatment, but which such treatment might even aggravate. The patulous condition of the uterine canal in puerperal cases makes the organ easily and safely accessible and the treatment therefore more effective; but the most effective antiseptics in surgical gynæcology is generally prophylactic.

OPIUM, QUININE AND ICE.

In addition to antiseptics certain other precautions against cellulitis, peritonitis and metritis should be enforced, especially in cases predisposed by a previous attack. Preparatory to operation the patient should be fortified by moderate doses of opium combined with full doses of quinine, and for two or three days after the operation this should be continued and supplemented with the ice-bladder on the hypogastrium. The thin rubber ice-bladder is most convenient, but the ordinary sheet rubber such as is used by dentists for the rubber dam may be substituted by gathering up its sides and corners above the ice and tying them with strong twine. To prevent the annoying condensation of water on the outside of the rubber bag another piece of rubber or oiled silk may be wrapped about it. Experience has shown that great reliance may be placed upon opium, quinine and ice, not only for prophylaxis against inflammation but also as a remedy in the acute stage, and that the ice is much more certain in its results than the time-honored and conventional flax-seed poultice.



CASE OF HERPES OMO-BRACHIALIS.

CASE OF HERPES OMO-BRACHIALIS. By JAMES I. TUCKER, A.M., M.D., *Chicago*.

[Read before the Chicago Medical Society, March 21st.]

Herpes is one of that class of skin diseases which are especially interesting because, though characterized by a distinctly defined cutaneous eruption, they are not, properly speaking, diseases of the skin. I believe that it is universally conceded by physicians that they belong to the neurological group, and that the peripheral phenomena which they exhibit are traceable to altered trophic centres residing in the ganglion or to disturbed trophic innervation. This fact has been repeatedly observed in frontal zoster, and is doubtless equally true of zoster appearing in other regions besides those presided over by the ganglion of Gasser and branches of the fifth pair.

The case to which I wish to call your attention is the following. Mr. J. P., aged 36 years, had for many years been an invalid owing to indiscretions in his youth. He had been very intemperate in the use of spirituous liquors and sexually inconstant: he contracted syphilis and went through all the several stages of this disease, which was aggravated by the injudicious treatment of a border physician. He was one of a family every member of which had been afflicted with some form of nervous disorder, a family so peculiar in this respect that I made the phenomena exhibited by them the theme of a paper which I read before this society a few months ago and which I entitled "Undiagnosable Maladies." He came first under my professional care about five years ago. He was then much emaciated, anæmic, and suffering from a profuse serous diarrhœa and a remarkable effusion of synovial fluid

of the knees, the patellæ literally floating in a sea of this fluid. He recovered from this disease and found employment as a proof-reader, and pursued his avocation diligently till about six months ago when he completely broke down and came under my care a second time. His habits were now and for a long time had been good in every respect. His principal complaint was a cough—a cough of deep, sepulchral sound, which gave him no rest night or day. I never listened to such a profound and persistent cough before, and it was useless also, for there was no mucus or other foreign matter to be expectorated. Knowing the history of the family as well as I did, and educing no satisfactory evidence of organic disease of lung, heart, liver or kidney, as a temporary makeshift I called it *nervous*. On the 3d of December he came to see me on account of a pain of a rheumatic character in the right shoulder and arm. On December 4th there appeared an eruption consisting of a few vesicles, almost invisible, in clusters on an inflamed base. They crept hour by hour and day by day in quick succession, attended with an almost insufferable sensation of heat, an *ignis sacra* so intense that according to his description it seemed as if the shoulder and arm were in the state of ebullition and as if, if he had looked at them, each vesicle would have been seen undulating like the rings of a polyp. The vesicular eruption had fully evolved itself by the 9th, and occupied the shoulder and outer aspect of the arm and forearm, crop after crop appearing and following the course of branches of the brachial plexus, notably of the circumflex, the musculo-spiral, the external cutaneous and the median nerves, and terminating in an immense and extremely painful bulla situated upon the ball of the thumb. These vesicles in due course of time passed through the various stages of increase,

confluence, maturation, decline and termination. The eruption had entirely disappeared by December 15th, though the inflamed bases remained distinctly visible. The causalgia ceased, and more remarkable still, the chronic cough disappeared also altogether. The eruption was such an unique example of this rare form of herpes that I took a photograph of it, and have it here to exhibit to you.

To relieve the pain and burning sensation I resorted to hot fomentations and the oleate of cocaine. I found an ointment of the boro-glycerite to be useful. It was of very little use to employ opiates and anodynes, for he seemed to be proof against them. He was very nervous and sleepless, but morphia in large doses had very little effect upon him; and one time, during his former illness, I recollected he took two hundred and forty grains of chloral hydrate (of his own accord) at a single dose, with no effect except to make him a little delirious! In treating him I could not but think that one of the spinal ganglia had been affected by the old syphilitic virus, and accordingly made use of the iodide of potassium.

In this case several problems present themselves for solution:

1. What may have been the relation existing between the cough and the eruption?
2. Why did the cough cease upon the appearance of the eruption?
3. May the ganglion have been the seat of a tertiary syphilitic alteration and undergone a metastasis from the ganglion to the skin, and culminated in a morbid peripheral trophic and sensitive phenomenon?

52 Douglas avenue.

EDITORIAL.

ARTIFICIAL ILLUMINATION.

The matter of artificial illumination is one that concerns man's well-being in many ways, and deserves much thought.

It is not the purpose of this article to deal with the question of relative expense and consequent economy, important as that is, but rather to consider the influence upon man's well-being, both in the general and in the local effects produced by different methods of illuminating.

So far as the general influence on the human body is concerned there are certain important requisites. These will vary somewhat with the attendant circumstances under which the light is to be used. The same conditions may not be equally required in the study of the professional man, the counting-room of the merchant, and the factory where artisans are employed. All of them do require proper amount, and right direction of the light, and steadiness of it. These are important desiderata so far as the eyes are concerned.

As influencing the general health, the consumption of the oxygen of the air and the substitution for it of noxious gases, especially when ventilation is defective, are matters of no small import.

The most generally used methods of illumination may probably be classed as, first, by oil, animal or vegetable; second by gas, and third by electricity, these having led to the almost total disuse of other modes of illuminating. Petroleum when purified is comparatively free from danger; furnishes good illumination, and a steady flame. Its consumption of oxygen and giving off of noxious gases and heat are its chief objections. Next in order comes gas as usually furnished in centers of population. The advantages and disadvantages of

this differ very much, owing to various circumstances, as the material from which it is manufactured, defects in methods of distribution, etc. The good illumination from it generally and the convenience attending its use have led to its extensive use for illuminating purposes. The objections to it, viewed exclusively from the view of its influence on man's physical condition, are general and local. When there is escape of gas into man's dwelling-place, as from defective pipes or otherwise, the deleterious effect is shown in various ways upon the human system, even resulting in death when breathed in a moderately diluted state. When more diluted with air, the deleterious influence of breathing it varies only in degree. It consumes, also, oxygen from the air, and gives off poisonous gases and heat and unconsumed carbon, thus vitiating the air breathed, impoverishing the blood and depressing the system.

As usually employed, it burns with more or less unsteadiness of flame, which is very trying to the eyes. The amount and the direction of this illumination are often very objectionable.

The third method, by electricity, which is now coming into more general use, appears to obviate many of the objections which attend the use of most of the other methods of illumination.

The two forms in which it is most generally used are what are called the *arc light* and the *incandescent light*. Both forms possess the advantages of not consuming the oxygen of the air and substituting therefor deleterious gases, or permitting unconsumed carbon to escape, and they do not greatly heat confined rooms, whilst giving good illumination. The arc light possesses advantages over the incandescent light in having greater illuminating power, in consequence of which it seems to be better adapted to illuminating large spaces; but it generally possesses the disadvantage of being more or less flickering, and therefore is trying to the eyes. Because of its brilliancy it should be placed as high as practicable, especially in public thoroughfares. The paleness of the light given by

the arc light makes it in some respects a less agreeable light. The incandescent light is slightly tinted, and therefore is more agreeable. It is more steady, gives a less dazzling light, and seems, in many respects, better suited for the illumination of smaller spaces.

Dr. J. A. Andrews, of New York, made a carefully prepared report, last year, to the *American Ophthalmological Society*, on the electric light, from which the following practical points are extracted. He says:

It is of practical importance to learn something about the relative effect of the different forms of artificial light on the human retina. All forms of artificial light contain, as compared with daylight, an excess of waves of long wave-length,—i. e. they are of a *yellowish* hue. In the electric light the short-wave rays predominate,—i. e. the violet rays.

* * * * *

As far as mere *color* is concerned, the *electric light* approaches nearer to that of the *sun* than does the *gas* or lamp flame. But which has the more to do in producing evil effects on the eyes after long and continuous work by artificial light—*color* or *heat*?

Gas emits the greatest amount of heat; petroleum lies between gas and electric light.

Tyndall has shown that the value of the luminous radiation from the flame of oil, gas, and the electric light is as follows:

	Luminous.	Obscure.
Oil flame.....	3	97
Gas flame.....	4	96
Electric light.....	10	90

We have therefore, with the *electric light*, the *maximum of light* with the *minimum of heat*.

Chardonnet (Vision des radiations ultra-violettes, Compt. Rend. hebd. des Seances de l'Acad., No. 8) has recently made some interesting investigations on the absorption of ultra-violet rays by the media of the eye, particularly by the crystalline lens, this absorption not being done without fatiguing the eye, especially when it concerns the long and brilliant spectrum of the *electric arc*. But he found on photographing the spectrum of the incandescent electric light, that the spectrum hardly passed beyond the visible spectrum; hence he inferred that this incandescent electric light saved the media before the retina the labor of absorbing and diffusing the ultra-violet spectrum. I do not believe that we should attach much practical importance to this explanation. It is easy to convince one's self that the inconstant and unsteady intense glare of the *arc electric light*, only faintly modified by an *opal* or *ground-glass globe*, is extremely distressing to the eyes.

So far all the cases of injury to the eye from the electric light recorded in medical literature have resulted from exposure of the eye in close prox-

imity to the *arc electric light*, and this has, in every instance, been of a very intense brilliancy, generally that used for street-illuminating purposes.

So far as I have been able to ascertain, no case of accident to the eye has been reported as having been caused by the *incandescent electric light*. Of the 1100 persons whom I have examined and observed during the past year who work by day or by night for many hours by the *incandescent electric light* of *Edison's lamp*, there was not a single instance of injury to the eye; but, on the contrary, I was surprised to find that a considerable number of these persons, with a high degree of myopia and choroidal changes, were absolutely comfortable while working by this light, and they expressed themselves as having experienced a great improvement in the condition in their eyes since they had begun to work by the electric light (Edison lamp of twelve to sixteen-candle power), always shaded from the eyes, the light being thrown down upon the work from a short elevation. Many persons among type-setters and copyists have told me that formerly, when gas was in use in the establishment in which they worked, they went home from their work with their eyes red, watering, and aching, and this was especially the case among short-sighted persons, but that they could work longer by the Edison light (the arc light distressing them), and without discomfort. Of course, every form of artificial light is more or less dazzling when the source of light casts its image on the retina. We certainly can avoid this dazzling in the gas or petroleum flame by means of an appropriate shade; but, in order to secure the requisite amount of illumination, we must either approach the light close to the head, and thereby expose the eyes to the undesirable radiant heat, or increase the illumination at a greater distance, and thereby make an increased demand upon the vital parts of the atmospheric air in the room, thus vitiating the latter, which is a very undesirable equivalent. The amount of heat radiated by the electric light is very unimportant; and when, after sunlight, we add to its unrivalled qualities as an illuminator the steadiness and absence of combustion of the *incandescent lamp of Edison*—there being, therefore, no consumption or vitiation of the atmospheric air induced by it—together with the practical clinical fact that it is a greater comfort for even persons with existing eye affections to work by this light than by any other artificial illuminator, we must, from a therapeutic point of view, concede to the incandescent electric light advantages not possessed by any other artificial means of illuminating; and any one who has given the subject thoughtful consideration will at once see the great blessing which would come from introducing this kind of light into our *night-schools, theatres, public halls*, and those innumerable *counting-rooms* in great cities where large numbers of human beings work by artificial light during the entire day or night, the demand upon the atmospheric air by the individuals alone being, in the absence of adequate means of ventilation, and in the majority of instances with very little ventilation at all, in these overcrowded places, terrible enough without the additional mischievous agent in vitiating the atmospheric air present in the many *gas flames*. The advantage of using

the incandescent light in our ophthalmoscopic dark-chamber must be evident to every ophthalmic surgeon.

My conclusions are as follows:

The *arc electric light* is not so objectionable on account of its intense brilliancy; which can be modified by means of an opal or ground-glass shade or globe.

The gazing at the *arc lamp* for many seconds is attended with great risk to the eyes. The *arc light*, in its present state, should be positively rejected as unsuitable and actually harmful to the human eye, particularly on account of its unsteadiness.

The *incandescent light of Edison*, because of its steadiness, adequate power, and composition, is safe, and occupies at present the first position as a means of artificial illumination. By its use the accommodation of the eye is less taxed than by other illuminators.

The light may advantageously be placed on the table in *front of* the person using it, but it should *never shine directly into the eye*, but always be *completely hidden* from the eyes by means of an opaque shade made of glass or tin, and the light be thrown down upon the work. For obvious reasons, it is further believed that the incandescent electric light is especially beneficial to myopes.

Discussing the report, DR. ACNEW said: I would ask for a moment to say that Columbia College, of which I am a trustee, has built a very large room in connection with its library for the night use of students. I had something to do with the introduction of the incandescent light into it. Each table is provided with an electric light, over which is placed a conical shade to protect the eyes from the direct light. For two winters we have kept the library room open until ten o'clock every night except Sunday night, and our students have been encouraged to come there. The library was also thrown open to the public, a simple introduction with a card being all that was necessary. Persons engaged in literary pursuits have come in considerable number to the library to study. A number of persons with sensitive eyes have come there to test the effect of the incandescent light, and have obtained permission to do continuous work there every evening. They found that they could work longer with less detriment to the eyes there than in any other place to which they had access. They have come from rooms where they have had gas and kerosene lamps, many of them having previously secured what they had supposed to be the best means of illumination. The introduction of the incandescent electric light there has proven of great advantage. I agree with the writer in all that he has said bearing upon that particular matter. This matter is worthy of the consideration of those having to do with colleges or schools requiring work at night. Aside from the fact of its not vitiating the air, the steadiness of the light, and the fact that it is directed upon the work and shielded from the eye commends it. I think that air-poisoning has a good deal to do with the progress of eye diseases.

FOREIGN CORRESPONDENCE.

MEDICINE IN VIENNA AND PARIS.

To the Editor of the JOURNAL AND EXAMINER.

Dear Sir :

The man in busy practice with little time to read, if he takes a deep interest in his profession, often feels a desire to break off from the monotonous routine of his labors, and visit the great centers of medical learning, see and hear the men who teach, and make himself acquainted with their manner of treating their patients.

In thirty years of active professional work this is the only desire that I have gratified.

While the few random notes that this letter contains will perhaps be nothing new to the man who stays at home and by diligently reading his text-books keeps himself abreast of the times in his profession, still I believe there is an advantage in seeing men treat their patients as compared with that of reading their writings, not only in the matter of having the subject illustrated by a living patient who is examined before you, and whom you may examine yourself, but I believe further that men really often treat their cases themselves very differently from the manner in which they recommend the same to be done when they write a text-book, or an article for publication in a medical periodical. In what I shall say I shall purposely abstain from reporting or discussing unusual or extraordinary cases, confining myself to those that fall under our care at every turn in actual practice.

Most American physicians whom one meets here are young men just from the colleges, and they are too often only interested in such cases as a man would see only occasionally in a lifetime. They are eager to see Bibroth resect the pylorus for cancer, and are constantly presenting their cards to Pèan to get a chance to see operations, that they never ought to attempt to perform.

But I am even more disgusted with some of the lady physicians who come here to Paris.

They will be pushed and jostled amid the great throng that follow the surgical service of Gillan at Hotel Dieu; sit on a back seat with an opera glass in hand to see Pèan amputate a man's leg at the hip joint. But go to the children's hospital, where Simon holds his clinic, and one finds not a single one of them there.

The manner of teaching medicine in Germany is somewhat different from that practiced in France.

In Vienna, for example, a patient is wheeled into the amphitheatre, a couple of students are called down and requested to examine the case and give a diagnosis.

After they have finished their examinations, the professor reviews the case and corrects any errors that may have been made. He discusses the case fully, you are informed from time to time as to its progress, and when it dies you are expected to attend the autopsy.

You get but little chance to examine the cases at the bedside unless you take one of the private courses, given by one of the assistants.

Here in Paris there are so many hospitals and so many good men who give bedside instruction, that one can follow them and personally examine every case of interest.

While at the bedside the professor tells you which case he proposes to make the subject of his morning lecture; he then, after examining the case in your presence, giving its most salient points, repairs to the lecture-room and discusses the disease more fully.

Looking over a period of twenty years, at which date I made my first visit to the continent, I find many changes in the treatment of diseases, especially those of an acute character.

These changes are of two kinds: first, a tendency to go back to the practice of our fathers in the matter of the administration of mercury, and the more frequent practice of blood-letting; and second, a more complete and absolute expectancy. While the late discoveries in bacteriology have shed new light upon our means of diagnosis, unfortunately it has added but little to our stock of knowledge as far as therapeutics is concerned.

There is another peculiarity about the prescriptions of most continental physicians that is perhaps worthy of note, and that is, that they scarcely ever combine two remedies in the same recipe, or even give the patient two active remedies at the same time.

Arterial sedatives, such as aconite, veratrum viride, and the like, so commonly prescribed with us, I have never heard even mentioned, much less prescribed, during my present stay in Europe.

We smile with pity at the laity who swallow quack nostrums and make millionaires of the Ayers, the Jaynes and the Warners, and yet we physicians of the West, at least, allow a few enterprising drug houses that manufacture beautifully colored tasteless elixirs and pleasant syrups, said to contain the medicinal properties of roots and herbs of whose real action we know little or nothing, and the best that can be said of them

is that they are generally inert. I say that we allow ourselves to be humbugged on a scale that is gigantic, and for which there is no apology except that like the non-professional world we are easily gulled, or never stop to seriously investigate the subject. But I had forgotten that I was writing up medical matters in Europe and not in America.

Bamberger, of Vienna, who is one of the most scientific men in Europe, I believe, is a perfect skeptic as to the beneficial effects of drugs in the treatment of acute diseases. Though an old man and rather feeble in health, he never flags in his interest at the bedside, examines his cases with the most painstaking exactness, and if they die, follows them to the dead-house and views with an anxious eye every cut made by the scalpel that is either to prove or disprove the diagnosis made during the life of the patient.

Ten years ago he was using in typhoid fever the cold baths after the manner and teachings of Liebermeister. Now he uses cold baths much more sparingly, in fact, only when the temperature reaches 40° C. He then uses them every three or four hours until the heat of the body is reduced to 38.5° C. In general, however, he prefers to lessen the bodily heat by repeated cold or tepid sponging.

The only medicine he gave a series of patients I saw him treat was seven grains of quinine at 1 and 5 P.M. The large doses of quinine, recommended by Barthelow and other American authors, are universally condemned here. Though such quantities lessen the temperature, the effect upon the heart's action and nervous system is most disastrous. Nothnagel's treatment of typhoid fever is essentially the same as that adopted by Bamberger, except that he uses the cold baths a little more freely.

In cases where heart-failure becomes a prominent symptom, he gives nitro-glycerin in doses of from .001 to .002 grams three or four times in the twenty-four hours. Great stress is laid on the nourishment of the patient, but only fluids are allowed until the patient is well on the road towards convalescence. Milk and animal broths are exclusively used.

Though a slight albuminuria is nearly a constant symptom of this disease after the 7th to 12th day, an excess of albumen in the urine is a grave symptom.

This should be watched, and when it appears combat it by small doses of digitalis alternated with one-grain doses of calomel.

Here in Paris the treatment of typhoid fever is essentially the same as that in Vienna, except that the cold baths are not generally used.

About 15 grains of quinia is given in the twenty-four hours, divided usually into four doses.

Alcoholic stimulants are used sparingly from the outset, giving the first week about 12 ounces of Bordeaux wine, and after that adding a certain amount of brandy. Coffee is given freely for its tonic action upon the heart, and in Paris bread and rice is added to the soup.

In connection with this subject of the treatment of typhoid fever, I have made most thorough inquiry as to the use and their effects of antipyrin and thallin.

Last summer, in an article to the *New York Medical Record*, I gave the opinion of the best men in Germany, as far as I could ascertain, as to the effects of these remedies in this and other febrile diseases. I also gave a review of a very interesting article published in the *Wiener Medizinischer Blätter*, giving an extensive experience with these medicines. Still, I see in nearly every journal I receive from America some one who

still treats his cases of typhoid fever with these, in my opinion, most unsafe and dangerous agents.

The writer in the above periodical says that he knows that the remedy has a bad effect in both typhoid fever and pneumonia, and attributes the death of two patients suffering from the latter disease, directly to the administration of antipyrin.

Nothnagel says that while this agent will reduce the temperature of the body to any point desired, it has no effect on the duration of typhoid fever; in fact, its tendency is to prolong the disease—to increase the tendency to hypostatic pneumonia, heart-failure and other untoward symptoms that originate in an enfeebled heart's action, and a general nervous prostration.

Germain Seè, in a late clinical lecture at Hotel Dieu, says :

“Antipyrin in typhoid fever is worse than useless. It never ought to be given.

“In the fever of tuberculosis it will reduce the temperature on the day it is given, but during the apyrexia the patient will sweat more profusely, will feel weaker, and in every way be the worse for the treatment. In this disease attend to the patient's digestion and elimination, and abjure all remedies that produce a profound impression upon the system.

“Never give the remedy for its antipyretic effect, except in a form of fever, the course of which is of short duration and in which there is no ultimate danger from a general anæmia.

“You will find rheumatic patients occasionally who cannot take the salicylate of soda on account of its unpleasant effects upon the stomach or the nervous system.

“If the disease be of an active or sthenic type, you may give the antipyrin with advantage. In certain forms of neuralgia you will find the remedy a good one.”

Either at the bedside or in the lecture-room, I have interviewed Jaccoud at Le Pitiê, Professor Peter at the Necker, Professor Potain at Le Charitê, and Professor Dieulafoy at the School of Medicine, and they all tell one story, and that is, give *no antipyrin in typhoid fever*.

If I shall be able in this article to convince the readers of this journal, or even a small part of them, that this remedy is one that never ought to be given in any form of fever that has a natural tendency to run a protracted course, I shall certainly have rendered a most valuable service to their patients.

BRIGHT'S DISEASE.

Professor Dieulafoy, who has lately been appointed to a professorship of practice in the School of Medicine, is a young man, and one of the finest teachers at the bedside and in the lecture-room that I have ever heard. He opened his course after the holidays by a series of lectures on diseases of the kidneys.

He says in relation to Bright's disease that the nice points that authors try to make as to the particular form of lesion that exists in any given case will all fail you generally at the bedside. That, in fact, all the different lesions are often found in the same kidney, and as to which one predominates is a point that can only be determined with certainty by a post mortem examination. His treatment all resolved itself into a milk diet and blood-letting.

He insists on blood-letting whenever the patient presents any symptoms that portend uræmic convulsions.

Professor Jaccoud's treatment is the same, in addition to which he is now using the inhalation of oxygen gas.

He says that the number of casts or the amount of albumen in a given case he considers of less importance in a prognostic point of view than the specific gravity of the urine. You may

think the patient better because there is less albumen in the urine, but unless one finds an improvement in the weight of the urine, he will be disappointed. He insists on blood-letting, and that early if the case be a grave one.

Professor Peter relies mostly on a milk diet in his treatment, but gives small doses of digitalis on alternate days.

He says that the tincture or fluid extract of digitalis is never reliable.

He advises an infusion or a decoction, but he prefers the former. In Vienna they also use the remedy only prepared in this way. In the latter city they usually give one-grain doses of calomel on alternate days, using the digitalis on the day when the calomel is not given.

In Professor Simon's wards in the children's hospital there are always a large number of cases of Bright's disease.

Professor Simon says that there are two diseases that children tolerate much better than adults, which fact should always be taken into account when formulating a prognosis; and these are cardiac and renal affections.

The patients in this hospital range in age from 3 to 14 years. He begins the treatment with digitalis, using an infusion. He continues this only three or four days. He watches the pulse, and if it begins to grow more frequent, he suspends the remedy for a few days and then begins again. He keeps the bowels open with small doses of calomel. He washes the surface twice a day with hot alcohol, and if the patient cannot tolerate the digitalis by the stomach, he adds that to the alcohol used for the bath. He uses a hot bath twice a day, and envelops the body in carded wool for two hours after each bath. In case of convulsions he uses an injection of hydrated chloral. He applies cups to the spine, and draws blood in proportion of the age and strength of the patient.

PLEURITIC EFFUSION.

Among the working-classes here, who are constantly exposed to the vicissitudes of a damp winter climate, with their houses generally insufficiently heated, they have in the hospitals here a large number of cases of serous effusion into the pleuritic cavity. In the service of Professors Jaccoud and Peters I have witnessed the management of quite a number of cases of this kind. The former is a firm believer in the efficacy of early tapping.

As soon as the effusion reaches an amount to exceed 32 ounces, he uses the aspirator and draws off the fluid. On the other hand, Professor Peter only taps the patient when the fluid fills the pleural cavity to such an extent as to interfere with respiration, or deranges the circulation by the displacement of the heart. He relies mainly in his treatment on blisters to the chest, using them of large size and changing from one locality to another on the chest walls.

He sometimes gives the iodide of potassium in five-grain doses three times a day; but blisters, combined with a generous diet and plenty of wine, are his main reliance.

Professor Jaccoud, to a few of his patients, gives quinine in three-grain doses three times a day. But his great remedy in these cases is *milk*. He now has a patient in the wards to whom he gives one gallon of milk every twenty-four hours, and to whom he allows no other diet.

He claims that this manner of treatment is far better than giving medicines, such as the iodide of potassium and the like; that the milk has a double action; that is, to nourish the patient, and to act powerfully upon the kidneys, causing absorption of the effused fluid.

Like women in the matter of bonnets, we doctors follow fashions in rushing after new ideas in the treatment of diseases, and when we take a start in a certain direction are all too much inclined to run in the same rut.

The mania now in Paris is the milk-treatment. Though, like most other hobbies, it is probably often ridden without sense or judgment, it has one redeeming feature in its favor, which cannot always be said of medicines proper, and that is, that it is a harmless kind of craze.

Professor Dieulafoy, in his opening lecture at the School of Medicine, advocated in most eloquent terms the practice of early puncture in cases of pleuritic effusion. He says that whenever the amount of the fluid in the chest is as much as thirty-two ounces, it is one's duty to warn the patient and the family that the case may terminate fatally at any moment, and cites a number of examples in his practice to prove the truth of this assertion.

PNEUMONIA.

In the broncho-pneumonia of children the treatment here is ipecacuanha to the extent of vomiting the patient occasionally, the use of the bromide of potassium to quiet the cough, and the free use of alcohol. No opium is given. Mild forms of counter-irritation are applied to the chest.

In croupous-pneumonia the treatment is expectant and alcohol is used, though Professor Jaccoud gives tartarized antimony in the early stages when the patient is robust.

INTESTINAL OBSTRUCTION.

A man aged 37 years was admitted into Hotel Dieu, in the service of Professor Gillaux, having all the symptoms of intestinal obstruction, which had existed for eighteen hours. Gillaux said that he was unable to determine the exact nature of this obstruction, and, as the case was not yet

sufficiently grave to warrant an abdominal section, he would put the man to bed, give a large hypodermic of morphine, and apply a mild faradic current to the abdomen for twenty-four hours, unless the patient's symptoms grew worse. He accordingly applied a large wet sponge to the abdomen, and on top of this he applied one electrode, and the other opposite over the spinal cord. This was kept up for twenty-four hours, at the end of which time the bad symptoms had all disappeared, and the man made a good recovery. Gillaux said that this is his usual treatment of such cases, and he had often been rewarded with as equally brilliant results as in the present case.

M. PASTEUR.

During my stay in Paris I have visited at intervals M. Pasteur's institute, and although he is out of health himself and is spending the winter in the south of France, I have witnessed a large number of patients treated by his method of anti-rabic inoculation.

I have also watched with great interest the medical journals here, and listened with attention to the men who lecture at the School of Medicine, in order to form an idea of the sentiment of the profession here in France as to the merits of this, the greatest discovery or the most plausible humbug of this 19th century.

In the medical press the subject is but little discussed, and in speaking of M. Pasteur the faculty often refer to his great researches in bacteriology, but say little or nothing, pro or con, as to the merits of his claimed anti-hydrophobic discoveries. Still I am inclined to believe that the majority of the profession here are believers in Pasteurism, and all of them have perfect faith in his personal honesty and integrity.

Early in January, Dr. Vulpian made a report before the Academy of Medicine, giving the statistics of M. Pasteur's institute up to December 31st, 1886.

Up to that time there had been treated there 2,682 cases. Of these there were 518 who had been bitten by animals only supposed to be mad. The balance, that is 2,164 cases were bitten by animals known to be affected by hydrophobia.

Of these 29 had died up to that date, or 1.34 per centum. Previous to M. Pasteur's treatment statistics show that 16 persons out of every 100 bitten by rabid animals had died of rabies.

This result, of course, according to Dr. Vulpian and M. Pasteur's admirers in general, stamps him as one of the greatest benefactors of his race.

During the latter part of the summer and early autumn of 1886, a larger number of cases treated at the institute had died than during any corresponding period of time before. This decided M. Pasteur to use a stronger virus for his injections, and he accordingly instituted *la Méthode intensive*.

Up to this time things went on quietly, and M. Pasteur treated, from month to month, a larger number of cases, and collected from all quarters money with which to found a great institute, to more thoroughly carry out his work. If there was much opposition to his method, it did not show itself upon the surface.

Early in January last, Professor Peter, who is one of the first physicians in Paris, read before the Academy of Medicine the history of a case that he had lately treated in connection with a fellow practitioner, and which case had been treated at the Pasteur Institute. This patient died fourteen days after the last treatment of a form of rabies called the paralytic form of the disease, a mode of death which uniformly follows when ani-

mals are inoculated with the virus of hydrophobia. Professor Peter described in detail the patient's symptoms, and avowed openly that in his opinion the patient died of the treatment given, and not from the bite of the supposed rabid animal.

This report produced a most profound sensation, not only in professional ranks, but the secular press, taking sides either for or against M. Pasteur, discussed the subject at great length. Professor Peter, though attacked most violently by the friends of M. Pasteur, is a brave little fellow, and defends his position with a tenacity and vigor that are terrible. Two weeks after this, in a clinical lecture before us at the Necker, he spoke for two hours, in substance as follows:

"On December 31 we had admitted into our service here a man 30 years of age with high fever, severe headache and pains in his loins. No diagnosis was made out at first. Four days later the patient broke out with the small-pox. We have had five cases of small-pox follow this contamination in the wards. As soon as it was known that the first patient had small-pox all the other inmates were vaccinated, that is, four days after they were infected. One of these patients died of small-pox, and all the others who had the disease had, at the same time, the vaccine or cow-pox, each disease running its regular typical course in each patient, but being modified by the circumstances that the two forms of disease existed at the same time.

These cases illustrated a law long since recognized; that is, for preventive inoculation to be of any account it must be practiced before the patient is exposed to the disease for which the preventive vaccination is practiced. Therefore, for the inoculation of M. Pasteur to be of any account, according to all the laws of analogy in such cases, it ought to be practiced

on the patients before they are exposed to the hydrophobic poison.

Within the last few days I have treated a patient aged 14 years that had been bitten on the finger by a cat. The animal was not suspected at the time to have had hydrophobia, but as two horses belonging to the child's parents six days later died of this disease, it was suspected that the cat was mad.

At this date, that is six days after the boy was bitten, he was taken to M. Pasteur and was treated by *la Mode intensive* for twelve days.

Six days after the last treatment, the patient was taken, early in the morning, with a pain in his back and a general malaise. A physician was called who told the parents that the boy had simply a lumbago and would soon be all right. Two hours later the physician was called back to see his patient, whom he found suffering from complete paraplegia. Professor Peter saw the patient at this time, who grew gradually worse, the paralytic symptoms extending rapidly upward and producing death at the end of twenty-six hours.

This patient had no convulsions, had no difficulty in swallowing water, and, in fact, had no true hydrophobic symptoms.

Professor Peter claimed most strenuously that this patient, as well as the one he had reported at the Academy, had died of the treatment he had received by M. Pasteur. He says that the friends of inoculation claim that the paralytic form of the disease sometimes occurs where no treatment has been used. I say that there have been recorded nine cases of paralytic hydrophobia in 200 years; while M. Pasteur's treatment has given us seven out of eight of the last deaths that have occurred after having been inoculated by him."

Professor Peter not only attacked M. Pasteur's whole plan of treatment but his statistics as well, claiming that the figures

given by him did not include all France. That taking France altogether for thirty years prior to Pasteurism the mortality was 30 per annum; that if the same territory be included in the statistics it would give a mortality for 1886 of 42. Since this date Professor Peter says that a report of two other cases have been sent to him, where death occurred in the same manner.

W. S. CALDWELL.

Paris, February, 1887.

SOCIETY REPORTS.

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.

Regular meeting, Friday, January 21, 1887.

I.—PARKES. *A Case of Interstitial Pregnancy, With Removal of the Product of Conception Through the Uterine Cavity.*

II.—BARTLETT. *A Case of Obstetrics, with Remarks.*

III.—ETHERIDGE. *Antiseptic Tamponnement of the Vagina in the Treatment of Pelvic Inflammations.*

The PRESIDENT, CHARLES WARRINGTON EARLE, M.D., in the chair.

I.—PROFESSOR Charles T. Parkes made the following remarks upon:

A CASE OF INTERSTITIAL PREGNANCY, WITH REMOVAL OF THE PRODUCT OF CONCEPTION THROUGH THE UTERINE CAVITY,
with the exhibition of the specimen.

The specimen, which I exhibit to-night, comes from a case which has been of extreme interest to me, and is, I

think, the remains of a conception, which was certainly outside of the uterine cavity, and which I succeeded finally in delivering through the womb. It was taken from a lady, 33 years of age, who, seven years ago, was delivered of a child at full term. The child is now living. A year after that, she was taken with hemorrhage and had quite a severe bleeding, every month or second month, for two years. Some time after her pregnancy, she was operated upon for laceration of the cervix, but the operation had little effect upon the hemorrhage. Two years ago she again became pregnant, and was delivered at the proper time. This child is still living. The lady came under my charge last September for hemorrhage from the uterus. On examination I found a globular mass in the lower portion of the abdomen, as large as two fists, very hard and tense. When I felt it through the abdominal walls, my impression was that it was a fibroid growth. Upon digital examination, I found the cervix dilated sufficiently to admit the finger very readily, which went over the surface of a smooth mass in the uterine cavity. This led me to think that it was a fibroid tumor with a broad base, probably a submucous tumor, which gave rise to the hemorrhage. On that supposition I placed her on the ergot treatment and kept it up for a week, twenty drops of the fluid extract every six hours. This gave rise to such severe attacks of pain that the patient could not bear the treatment any longer, but it had the effect of diminishing the flow of blood and increasing the dilatation of the cervix. I took pity upon her on account of the pain and gave a couple of hypodermic injections of morphine, when the pain ceased, the cervix began to contract again and soon reached its normal size, and the patient recovered from the acuteness of the disturbance, but the hemorrhage still continued, accompanied with a flow of muco-pus. I attended her from the 16th of September until the 14th of October; as she was getting along pretty well, I supposed the action of the ergot would gradually force this mass down so that it could be removed. My visits ceased and I heard nothing more from the patient, except an occasional report that she was getting along in the same way, until the 10th of December, when her husband came into my office and showed me a little piece of bone, or a piece of hard substance that looked like bone, which he said his wife had picked off the

napkin. It had the appearance of fetal cranial bone. He asked me what it meant, and I told him I could not say, but would see his wife. On inquiry, I found that the flow of blood had ceased, but the flow of pus had increased, and occasionally there was extruded a piece of this bony substance. On digital examination, I discovered the os and cervix filled with particles of this bony substance, and after removing them, I found it impossible to introduce my finger into the cervix. The external tumor was reduced considerably in size, and was low down in the pelvis, and could be felt projecting through the anterior vaginal wall. I then decided to dilate the cervix. I introduced as many tupelo tents as I could get into the cervix—at first but two of fair size—to their full length, and allowed them to remain there over night, when I removed them and introduced four more. That evening I removed them, and the cervix was dilated so that I could easily introduce my finger. As I had examined the uterus with the sound at my first visit, and it went around this mass to its full length, I supposed I had nothing but a fibroid to deal with. When I had dilated the cervix with these tupelo tents, I found I could not get at the mass of the growth, my finger going into the cavity of the uterus. At the distance of one joint and a half inside the cervix, I found a little opening, and projecting through this opening—about as large as the end of a pencil—were some of these particles of bone. Then the query arose, how was I to get into this cavity, and what was it? a double uterus, with multiple pregnancy at the last conception—one delivered and the other retained? I was at a loss to know what it was. (But finally concluded it to be an intra-mural pregnancy.) I had the particles examined under the microscope, and they showed the structure of fetal bone. Then I thought of using the tents, to increase the dilatation, but was troubled with the fear that I should have a severe septicemia come on as soon as this outside cavity was opened to air. But I was convinced that unless I tried to do something, the patient would pass out of my hands; so I decided to keep on with dilatation. On the 20th of December I began introducing the tents, and within two or three days after their removal, the cervix was again contracted so that it would not admit the finger. I introduced the tents again, and met the same difficulty in exposing the mass. The thought struck me that if I could

not get the large body out of the small opening, I could diminish the size of the mass ; so I introduced small forceps into this opening, and took it away piecemeal. All this time I had the entire uterus under my command, because it was an easy matter to bring the cervix down to the vulvar orifice. On the 24th I introduced tents and dilated it, so that I could introduce two fingers very readily, and finally got one of my fingers into the opening in which this body (indicating the specimen) was found. I then began to separate it and pull it away, getting hold of it with strong forceps. Sometimes I succeeded in bringing away a large mass of flesh, which looked exactly like that from a macerated foetus, the skin macerated and parchment-like. This was continued up to the 30th. Passing over the New Year, and allowing the patient to rest without interference, on January 9th I introduced four tupelo tents, a little longer than the ordinary, and fortunately succeeded in getting one or two into the opening in which the body was found ; so when I removed them that evening, I was enabled to bring away the entire mass and pass the finger into the cavity afterwards. It was very irregular, as though the uterine tissues had been forced into the irregularities of the foreign body. Since that time the patient has improved, the bleeding has ceased, the uterus has diminished in size, and she is up and about the house. I have had all parts of this specimen examined under the microscope. The fleshy mass shows connective tissue, muscular fibres, blood-vessels and hairs. The osseous material shows all the characteristics of foetal bone.

DISCUSSION.

THE PRESIDENT : Was there a history that would lead you to suppose, that at any time during her invalidism there was a pregnancy, or a pelvic hematocoele, or anything of that kind ?

PROFESSOR PARKES : At the time of her last pregnancy, she was very large and yet was delivered of a child that weighed but six pounds. Her abdomen was very large for some time after the delivery of this child. Again, there is a history several years back, of a period when menstruation ceased, and she supposed she was pregnant, but nothing came of it.

PROESSOR W. W. JAGGARD said the interesting specimen presented by Professor Parkes was a typical lithopædion — calcareous capsule, containing the foetal structures infiltrated with lime salts.

He thought the diagnosis of interstitial pregnancy highly probable. It was impossible to make a positive diagnosis without a post-mortem examination of the maternal organs. Carl Braun (*Lehrb. d. g. Gynaek*, 1881, p. 128) was responsible for the statement that the formation of a lithopædion occurred only in case of extra-uterine pregnancy. Spiegelberg (*Lehrb. d. Geburtshülfe*, 1882, p. 342) however, indicates that this proposition is too general. The formation of a *uterine lithopædion* occurs infrequently in the human female, but is not unusual in ewes. Koeberle (*Gaz. hebdom.* No. 34, 1866) extracted by abdominal section a lithopædion from the rudimentary horn of a *uterus bicornis*.

The formation of a lithopædion, therefore, was not a reliable sign in the differential diagnosis between uterine and extra-uterine pregnancy.

II.—DR. JOHN BARTLETT read a paper, entitled,
A Case of Obstetrics, with Remarks.

Recently I was requested to assist a younger physician in a case of midwifery. Dr. H. had been called some hours before my coming. He found a healthy, well-built woman in labor with her eighth child. Hitherto she had had no difficulty in her confinements. She had been in labor some hours, and, although the pains were very strong, the os fully dilated, and the head presenting, no progress had been made. A midwife had been in attendance. The Doctor attempted to use Elliot's forceps, but, because of the high and abnormal position of the head above the pelvic brim, he had desisted from his purpose. Upon examination, I found the os widely dilated, the crown of the head presenting. By introducing the hand into the vagina, my fingers, directed toward the left sacro-iliac synchondrosis, encountered and passed slightly beyond an extremity of the head-ovoid which I supposed to be the occipital protuberance, but near it was so distinct a fontanelle as to lead me to examine the opposite extremity of the head. Passing the hand deeply behind the left foramen ovale and well above the pubes, the fingers embraced the occiput; sweeping well backward again over the side of the head they traversed the tempo-

ral region till the ear was reached and carefully outlined. Still farther backward the fingers passed over the frontal eminences, which had at first been mistaken for the occipital protuberance. The head was floating above the pelvic brim; the frontal region sinking somewhat below the plane of the superior strait. The crown of the head rested gently upon the pubes, while the occiput rested so far forward over the pubic bones as to be distinctly appreciable to sight and touch from without. Having determined the position of the head, I proceeded to inquire the cause of its detention; for it did not impinge with force upon any portion of the circumference of the brim. Passing the fingers along the side of the head I felt for the cord around the neck. A coil of cord was immediately encountered and pressing a little farther upward a second, third and fourth coil were detected. I felt authorized to announce to Dr. H., as the cause of the dystocia, the suspension of the head above the brim by the cord shortened by four coils about the neck. The fingers were passed about the occiput and it was pressed downward and backward, throwing the forehead backward and upward above the brim, and bringing the occiput slightly into the pelvis, the pains meanwhile having a decided effect in assisting the manœuvre. I now intended to seize the occiput with the vectis, and so deliver. Upon trial with the fingers, however, I appreciated that, as the occiput had descended into the pelvis, the forehead had risen above it, so that the power of the vectis as a tractor would not be available, seeing that the forehead, the opposite end of the lever I proposed to move, was not fixed but floating, the foetus yet resting with the equators of the head well above the brim. As a lever to keep the occiput in proper relation to the inlet, the "Roonhuysen" would have served admirably; but in order to make available traction upon the head it would be necessary to lay hold of it with the forceps.

Accordingly, with very little trouble, though locking was effected within the vagina, the head was seized with a well-curved Simpson's forceps, and readily brought down. The expectation was, as soon as the head was delivered, to place quickly two clamp forceps on the cord and cut it between these, in order to escape the embarrassment which the several coils about the neck might occasion. The first loop however, was easily drawn over the head, the other coils were then readily released. The child which weighed 11 pounds breathed at once, seeming but little affected by the unnatural position of the funis. The length of the cord was 46 inches.

It may be considered what other line of practice might have been pursued. It might have been practicable to disengage the cord from the neck and in this way remove the cause of the dystocia. To this practice was the serious objection that with the head floating above the brim, the liberation of such a length of cord so near the pelvic inlet, might have led to its prolapse.

"The question as to the shortness of the cords being a cause of dystocia," says Joulin, "has passed through a variety of phases before our day". "Accepted by all accoucheurs from Mauriceau to Baudelocque as quite a frequent obstacle to the termination of labor, it was first rejected almost entirely by Baudelocque; and Gardien, still more radical, did not admit it at all. Lachappelle and Duges were but little disposed to consider it as a cause. Finally Desormeaux, Maygrier, Velpeau and Moreau, while they admit shortness of the cord as a cause of dystocia regard it as very rare; and this view is generally accepted to day." Some of the recent standard writers omit to mention a shortened cord as a cause of difficult labor. Spiegelberg states that too short a cord can only interfere with the advance of the child in the lower part of the parturient canal. Cazeaux, on the contrary, says that a shortening of the cord may retard the progress of the head at the superior strait. He writes: "We have met with a case in which unusual shortness of the cord, which was only nine inches in length, certainly detained the head above the superior strait for fifteen hours after the rupture of the ovum, and the entire dilatation of the os uteri." Among more recent writers, Lusk has a chapter on shortness of the cord. He reports the case of a neglected primipara, whom he assisted with the forceps after she had been in ineffectual labor for five days. "Her temperature was 103.5° F. she was in great agony. The external organs were inflamed. She died on the fifth day, the external genitals becoming gangrenous. The cord, tense and coiled a number of times around the neck, was the cause of the delay."

I cite two cases of dystocia from the cord encircling the neck. The first from that worthy man-midwife, Guillaume de la Motte, showing to what heroic expedients resort was had in these cases before the forceps came into use. The other case, from Smellie, is so similar in method of diagnosis and treatment to the one just reported, that it can hardly fail to interest.

LaMotte writes: "A young woman of this town, big with her first child, who had been very healthy during her preg-

nancy, found herself attacked with slight pains, that soon became very sharp and pressing. I was called to her in a hurry on the thirteenth of November 1697. I found the waters come away, and the child well situated. As the pains were brisk and frequent I thought the work would soon be over, but though the child kept moving continuously, was well situated, and far advanced, it remained six hours at the crowning. I was well assured that nothing but the cord could keep it there so long, when the pains were so excessive, but I saw no way to help her, there being no room to pass the fingers nor even the nail, between the head and bottom of the vagina, except toward the lower part where I slipped my finger dipped in oil as far as the chin, which I brought forward little by little, and then the head also; and kept pushing on my finger notwithstanding the sharpness of the pains. I reached at last the neck which I found entangled with the cord. I introduced my finger between them and slid the scissors upon it, with the button end toward the neck, and cut the cord through; the child came out immediately, asphyxiated but living; it kept groaning for two hours, and then did very well, except that it remained dumb. Whether there was anything displaced in the organs of speech, or the recurrent nerve obstructed, I know not. The cord had three turns; I cut only the last, which was that next to the placenta."

"In June, 1751," says Smellie, "I was called by a midwife to a woman who had been many hours in labor and found that after the discharge of the waters, the head was forced low down by every pain, but afterwards drawn up again. I was likewise informed that formerly she used to have large children and quick labors.

"Encouraged by this intimation, I tried to turn the child, but was prevented by the strong contraction of the uterus; but in making this trial, and raising the head I not only found the funis surrounding the neck, but likewise the uterus contracted before the shoulders. This last I dilated with my fingers as much as possible, then withdrawing my hand, applied the forceps and delivered the child, which had been dead for some days. The funis was three times around its neck being much tumefied and of a livid color."

In connection with the case reported by myself, I propose to make some comments upon the mode of determining the position of the head in labor. From time immemorial, it has been the custom of teachers to describe with particularity how

the position of the head may be determined by the tips of the fingers by means of the sutures and fontanelles.

Whatever skill or tact others may be endowed with, or may have acquired in such methods, for myself I wish emphatically to declare that such examinations are often entirely insufficient to furnish me with the desired information; and that now, after years of careful observation, I am not unfrequently at a loss to determine the position of the head after the usual examination *per vaginam*, and that I am occasionally led into an error in this regard only to be dissipated by the birth of the head. Nor am I alone in this want of capacity; a number of experienced obstetricians, with whom I have conversed on this subject, have expressed like uncertainty in determining the position of the head by the means mentioned.

The veteran John S. Clark, the most experienced practitioner in obstetrics that I have ever met, has on several occasions denounced the directions above referred to and so often repeated in the text-books as a delusion and a snare. The late Dr. Grosbeck, after fifty years of obstetrical practice, declared that he never could rely upon determining the position of the head by the methods under consideration. And the painstaking, accurate and deliberate surgeon, Dr. R. G. Bogue, does not boast of much better success. One of the most learned obstetricians in this city, an able lecturer on midwifery, once assured me that while he repeated fluently enough to his classes the stereotyped methods of determining the position of the head by the fontanelles and sutures, he often found, as the head passed the vulva, that the "data" furnished by the tips of the fingers had led him into gross error. While, in many cases the position of the head may be easily and certainly recognized by the ordinary methods, it is yet certain that in other instances, more especially when difficulties make a knowledge of the head's position particularly desirable, nothing positive as to its attitude can be made out by the average practitioner, by feeling in the usual way for sutures and fontanelles.

Nor is this appreciation of the difficulty of determining the head's situation new. That admirable obstetrician, William Smellie, who was one of the first to appreciate the desirability of knowing the head's position, and who perhaps earlier than any other accoucheur taught how such knowledge could be acquired, was often foiled in his efforts to ascertain the head's true situation. He writes in his "Observations" as follows: "The head though low down was so swelled that I could not distinguish its position, for I could feel neither suture, ear, nor

back part of the head." And in another place he writes, "I could not in any way, by the sutures or otherwise, distinguish the right situation of the head. I introduced the forceps at random by the sides of the pelvis." And again, "The head was so large and compressed into such a lengthened form that I could not push up my finger at the pubes to feel the ear or neck; neither could I distinguish the situation of the head by the sutures, because the scalp was so swelled; nor could I move the head upwards in order to feel the upper parts, such as the ear, neck or face." And also, "I felt something like the vertex down at the lower part of the pelvis, but we were all mistaken as to the position of the head. I thought the forehead toward the sacrum. I mistook the posterior for the anterior fontanelle. I was surprised to see the (supposed) occiput come along under the pubes, not with hair, but bald and smooth. We had all been mistaken as to the position."

How then in cases requiring a knowledge of the head's position is such information to be obtained? I know no better way of answering this question than by making reference to the practice of Smellie. Please to note the thorough methods by which he satisfied himself of the size or position of the head in the several cases here cited. "I knew the child was small because I passed my finger all around the head." And, "I perceived that the head was not large, because I could easily introduce my finger all around the lower part of it." Desiring to ascertain the position he says, "I scooped up the head above the brim of the pelvis, and as I slipped my hand flattened between the sacrum and the child's head, I felt with my fingers the back part of the neck" (determining the position of the occiput). And again, "I turned the back of my hand down towards the sacrum and raised or scooped the head gently to the upper part of the pelvis; and now with my fingers I felt the posterior part of the neck, and distinguished that the pelvis was not distorted. Thus informed, I introduced the blade of the forceps," etc. In reference to another case he says, "Being foiled in delivering the head, which was not large, after having properly applied the forceps I disengaged the instrument, and raising the head again (out of the pelvis) and found the difficulty was owing to the left shoulder being over the pubes. I got hold of the arm, brought it down, and again fixed the forceps and delivered, pulling gently at the hand."

From these extracts it will be seen that Dr. Smellie did not content himself with vaguely touching such portions of the presenting part as might be reached by the introduction of one

or two fingers, but that he introduced deeply the half hand, or the whole hand, and passed the fingers into every available space; not hesitating, when necessary and practicable, to lift the head above the brim that he might get his fingers about its salient points as the ear, the face, the back of the neck. It is noteworthy that it is only when circumstances prevent the head being thus "traced," that Smellie recommends that "the observation" be taken from the fontanelles and sutures. In the case which is the basis of this paper, the vaginal examination was made after Smellie's method. The steps of the procedure have been given in detail with the purpose of illustrating his teachings.

DISCUSSION.

DR. PHILIP ADOLPHUS: The diagnosis of the position of the child in head presentations by means of sutures and fontanelles is not as difficult to the physician who has been in attendance during a case of labor as has been stated this evening. The gradual descent of the head into the pelvis will permit the recognition of the landmarks by *repeated* examination with the finger.

In diagnostic obstetric investigations, palpation of the abdomen, the examination of the child's head and the pelvis of the mother by bi-manual palpation, should be conducted on the same principles as in gynæcological cases. An empty bladder is also essential to a successful diagnosis.

Such an examination will insure the recognition of the position of the child's head, and other necessary information.

The consulting physician, who encounters a tender abdomen, tumified soft parts and a swelled scalp in an exhausted patient, has a far more difficult task. The same rules, together with the introduction of the hand as far up as is required, under anæsthesia, will give him the necessary information.

The experience of the eminent writer of this paper, as well as that of others, shows plainly that a refinement of diagnosis is not absolutely essential. Many cases of labor are completed, in which the diagnosis of the position of the head has not been ascertained by its sutures and fontanelles. Moreover, cases which require delivery by forceps are frequently skillfully handled when the operator has not been enabled to ascertain the position of the head. We explain this by stating that the mechanical adaptation of the child's head to the bones of the pelvis is perfect; sooner or later the child's head, if

not disproportionate in size to the pelvis, will accommodate itself to its configuration, provided other obstacles in its path have been removed by the attendant. We state, also, that the position of the head does not determine the position of the blades of the forceps, but the position of the blades is always determined by the anatomy of the mother. Therefore, the forceps should be applied along the sides of the pelvis, and its pelvic curves should correspond to the curved axis of the pelvis.

Its introduction is governed by the direction of the obstetric canal, the globular head of the child, and the cranial and pelvic curves of the instrument. The direction of the obstetric canal in a woman in labor is not the osseous pelvis merely, but the pelvis covered with soft parts, whose terminal outlet is not at the point of the coccyx, but at the anterior commissure of a greatly distended perineum, a distance of ten to twelve inches during labor.

The blade of a long double-curved forceps—having both the cephalic and the pelvic curves—is guided into the pelvis by the fingers, and insinuates itself between the head and the soft parts of the mother. To facilitate the introduction of the second blade the first blade is gently elevated and rotated as much in a lateral direction as possible. The same manipulation is repeated with the second blade. In many cases the elevation of the blades and their gradual rotations for the purpose of locking them, adjust the blades of the forceps to the head of the fœtus, as they have already adjusted themselves to the mother's pelvis; and now traction, some compression, and slight leverage (if necessary) complete the delivery of the child, *which will rotate spontaneously within its blades* during traction, owing to the anterior and posterior planes on either side of the cavity, and the resistance of the floor of the pelvis.

It is best that the exact position of the head should be known, but such knowledge is not essential to its safe extraction; on the contrary, it is not correct to apply the forceps to the sides of the fœtal head when its position is oblique or transverse, for if its pelvic curves are twisted, injury must be inflicted on the mother.

PROFESSOR W.W. JAGGARD: I have listened to the reading of Dr. Bartlett's scholarly paper with interest and pleasure. His allusions to the wisdom of the ancients are always timely and judicious, notwithstanding the fact that, in general, the results of modern observation and experience are entitled to a higher

degree of consideration. I hope to be pardoned for making one or two criticisms.

The diagnosis of dystocia, by reason of a short cord, is not adequately established by the clinical history of the case. The ease with which the vertex engaged, after manipulation, and descended, after application of the forceps, the absolute length of the cord, 46 inches—even with four loose coils around the neck, not relatively short—the condition of the child when born, these are facts which do not indicate that the length of the cord constituted a mechanical hindrance to the progress of labor. The author has quoted Spiegelberg, who is of the opinion that shortness of the cord constitutes a mechanical hindrance only when the presenting part reaches the lower portion of the parturient canal. The only method of determining with certainty, in the concrete case, that shortness of the cord is acting as a mechanical obstacle, consists in the introduction of the fingers, direct contact with the cord, and the detection of the abnormal tension. If the case related by Dr. Bartlett was one of dystocia, and if the “occiput projected so far forward over the pubic bones as to be distinctly appreciable to sight and touch from without,” does it not seem a plausible hypothesis that the child was presenting slightly obliquely, and that the operator performed cephalic version? “The fingers were passed about the occiput and it was pressed downward and backward, throwing the forehead backward and upward above the brim, and bringing the occiput slightly into the pelvis, the pains meanwhile having a decided effect in assisting the manœuvre.”

In treating of obstetrical diagnosis, in general, Dr. Bartlett does not mention the signs derived from inspection, auscultation, and particularly *abdominal palpation*. I am induced to call attention to this topic for the reason that, notwithstanding the writings of Kucher, Mundé and Richardson, the recognition of the value of abdominal palpation in obstetrical diagnosis in the best recent text-books, and the translation of Pinard's Treatise, by Dr. L. E. Neale, of Baltimore, still many practitioners affect to disregard the paramount importance of the method. Litzmann (1865), Halbertsma (1870), Winckel (1878), Credé (*Gesunde und kranke Wöchnerinnen*, Leipzig, 1886, p. 80, *et seq.*), in order to prevent the infection of parturient women in their respective lying-in hospitals, have omitted all examinations *per vaginam* for months at a time, with most gratifying results. Under these conditions, external examina-

tion has proved perfectly adequate in the diagnosis of presentation and position.

I confess to a feeling of decided surprise upon hearing that a medical man, with the average degree of tactile sensibility and even moderate experience, should necessarily have difficulty in the diagnosis of position, by indagation, in normal, vertex presentations, after engagement, before the formation of the *caput succedaneum*,—the *os externum* being dilated or dilatable, the bag of waters, intact or ruptured. I am under the impression that failure to make an accurate diagnosis, by examination *per vaginam*, under the conditions specified, is due in very many cases to inattention. It is an obstetrical maxim of importance that both fontanelles and their sutures should be felt before making a diagnosis, when vaginal touch is exclusively employed. When an extensive *caput succedaneum* has formed, or ossification of the foetal skull is advanced, or in case of subnormal tactile sensibility on the part of the accoucheur, no absolute contra-indication to the introduction of the half hand exists. In forceps cases, a correct diagnosis of the position of the vertex must be made, since that instrument ought to be applied first with reference to the pelvic walls, and then adapted to the child's head, before the exercise of its most important—and as I believe, exclusive—function of traction.

DR. EDWARD WARREN SAWYER: I wish to speak of an interesting experience which occurred to me. A gentleman who had carefully translated the book alluded to called me in consultation to assist him. He had, by means of bimanual palpation, diagnosed a presentation of the vertex, but on my examination I found the buttocks were presenting. I think in most cases abdominal palpation is of no service whatever to the majority of practitioners. I have experienced the same difficulty that Dr. Bartlett has so graphically described in recognizing the position of the head by the introduction of the finger into the vagina. And after a long practice, so uncertain am I concerning the position that I never think of applying forceps until I have introduced enough of my hand to recognize some part of the face or head, in order to determine the exact position of the head.

DR. J. SUYDAM KNOX: In regard to making an exact diagnosis of vertex positions, I must often confess failure if I rely only on digital touch.

I have no doubt if the practitioner is called early to a case

of labor before the uterus has become contracted, and the bag of waters has been ruptured, that it is possible by abdominal palpation to make out the position of the foetus. When, however, labor has gone on for several hours the uterus becomes irritable, contraction and retraction taken place, and the liquor amnii to some extent discharged, I am satisfied that it is often impossible to make out a diagnosis of the position of the foetus by digital examination. Even if you can determine that the vertex is presenting, you cannot then make out the position exactly. I have no doubt that Dr. Jaggard is correct about those large obstetrical hospitals in Europe. The diagnosis is made because the patient is under observation from the time labor begins. But the busy practitioner is called after labor has progressed some hours, and the uterus is so irritable that as soon as he begins to make any abdominal examination it contracts, and it is impossible easily to make a diagnosis. I do not introduce the hand into the vagina in many cases, but when the labor is protracted, and I think the use of forceps necessary, and I cannot make out the exact position of the head, I give the patient an anæsthetic, and introduce the hand sufficiently to find out how the head lies. I cannot see how sepsis can occur by the introduction of that portion of the hand necessary to make a diagnosis, and I think the diagnosis should be made before instruments are applied. I have several times tried the oblique introduction of the long forceps, but doubt the wisdom of introducing them obliquely without reference to the shape of the mother's pelvis and attempting traction. It is much better to apply the forceps to bring down the head, with reference only to the maternal passages, and when the head has been brought through the superior strait, to unlock the forceps and allow rotation before effecting delivery. At times it is better to remove the forceps entirely, and to re-apply them after rotation has occurred.

PROFESSOR DE LASKIE MILLER: I was much interested in the very lucid paper that has been read. It is true that there were many statements that seemed strange to me. The paper was on the treatment of complications resulting from short cord, and the illustration was a case in which the cord was 46 inches long with only four coils around the neck. This should not, it seems to me, be a cause of dystocia; but admitting that it

was, we come to cases of actually short cord causing dystocia. Take a cord that measures only four inches in length, or a case of labor which has occurred in which there is no cord, of course there must be a placenta, and the fœtus is attached through this directly to the wall of the uterus. In such a case how can delivery take place without applying traction force sufficient to sever the placenta? Physiologically the contraction of the uterus, especially after dilatation is completed, is attended with a muscular retraction of the fibers of the body and fundus, which diminishes the cavity of the uterus and has the effect of severing its relation with the placenta. It is therefore possible for the placenta to be severed from its attachment to the uterus, by this retraction, and moreover there can be no injury to the uterus from the short cord if the contractions are normal, for while the organ is contracted the relation between the attachment of the cord and the uterus, or the placenta and its attachment to the fœtus, is not extended, rather shortened, so that the advance of the child can take place and delivery result.

A case is brought to my mind, which occurred in my own practice, of a primipara who was perfectly healthy, with nothing abnormal until about the time labor commenced. When I saw the patient in the first stage of labor, she remarked to me that she had felt no movement of the child for a considerable time, but this produced no impression on my mind, for it is a common thing for patients to say, and I paid no attention to it. The labor proceeded, and as the head was expelled from the vulva, I did as I always do, passed the finger instantly to the neck with the view of searching for the cord, and if it is found there, liberate it. I found two or three coils of the cord around the neck, and they were so tightly drawn that it was impossible to disengage them. In order to deliver the child readily, I severed the cord. I noticed there was no circulation, and the child was still-born, past all possibility of resuscitation, and it had been dead a long time, for I found a knot in the cord drawn so tightly that the circulation was entirely cut off. In addition to the coils around the neck the cord passed over the shoulder, under the opposite arm, around the body and under the knee, and possibly there were other coils. It appeared very much like the statue we see of Laócoön. I infer that the movements of the fœtus at the time labor commenced or shortly before had tightened the cord, causing its death. This is the only case I have met in my practice in which I could satisfactorily trace the death to the closing of

the knot. In regard to diagnosis of position, I was not aware that it is so difficult to make the diagnosis of position. I believe the practitioner should make out a diagnosis by abdominal palpation, which can be done with great facility if he is accustomed to the practice; but I also believe that the diagnosis can be made with one fontanelle and the sutures. We can certainly discriminate between the anterior and posterior fontanelles.

DR. JOHN BARTLETT: A Fellow has expressed surprise that as a means of diagnosis I have not made reference to abdominal palpation. I purposely limited my remarks to the ordinary methods of vaginal examination. I may, however, give it as my opinion that the method of determining the position of the head by abdominal palpation will probably prove available to those only who are capable of diagnosing head positions by the ordinary examinations per vaginam.

Doctors Jaggard and Miller have called in question the assigned cause of dystocia. To them it does not seem probable that the shortened cord was the cause of delay. Their objections are well taken. In this case there are two facts which give rise to the question whether the cause of the dystocia was really the shortening of the cord, the one in itself offering at first glance a sufficient cause for delayed labor, viz., that the head was projecting decidedly forward over the pubic bones; the other seeming to guarantee freedom from restraining tension on the part of the cord, namely, its unusual length; so that after the delivery of the head the funis, though shortened, was not too tense to admit of its coils being released in the usual way. It must be considered, however, in reference to the abnormal position of the head at the superior strait, that while its attitude presented an impediment to the descent of the occiput, it invited a facile descent of the forehead; and yet this descent did not occur. Besides, the head could be swayed to and fro in the median plane of the occipito-frontal diameter so easily and freely as to give the impression that it swung on a pivot at the neck. In fact, it was this sensation imparted to the hand that suggested the probable suspension of the child by the cord; and this suggestion was strengthened by the apparent absence of any natural tendency of the head to settle into the excavation, either in the first instance as a

brow and face presentation, or subsequently, as a right occipito-anterior position.

In regard to absence of great tension of the cord after the birth of the head, it is to be considered that without calling in question the possible detachment of the after-birth, surging of the coils about the neck, etc., the well-known mechanical principles by which the attached placenta in such cases in some measure keeps pace, so to speak, with the descending head, so clearly described by Dr. Miller just now, may themselves offer an answer to the objection that the cord was not found more tense after the head was delivered. No argument, however, can place the case certainly within the category of those in which dystocia is due to shortening of the cord. It will be perceived that I have regarded the case as interesting rather because of the unusual diagnosis of the malposition of the funis than as one in which this abnormality produced dystocia; and that I have availed myself of the free exploration of the presenting part by which the diagnosis was made as an opportunity to present what I regard as the more important part of this paper. I refer to my views as to the insufficiency of ordinary vaginal examinations as means of determining presentations and positions in labor. Upon the discovery of the four coils of cord about the neck, in association with other circumstances and conditions mentioned, I conceived the circling of the funis to be the cause of the dystocia, and conducted the delivery in accordance with that idea.

Criticisms upon the plan adopted should be made in this case, as in others, from the ante-partum standpoint of information. They should not be based, for instance, upon the knowledge that the cord was of very unusual length. This surplus in the cord's length threw a new and unexpected light upon the case, casting difficulties, before prominent in the foreground, into shade, and causing possibilities not before visible distinctly to appear. In this new light an opinion might be formed that the case left to nature would have terminated well, and that all interference was unnecessary. And yet I incline to the opinion that the ante-partum view of the case through the dark glass of the clinical obstetrician was the correct one.

III.—DR. JAMES H. ETHERIDGE made the following remarks upon

Antiseptic Tamponnement of the Vagina in the Treatment of Pelvic Inflammations.

What I have to present refers to tamponnement of the vagina and supporting the uterus in cases of pelvic trouble, notably of inflammation and enlargement of the uterus, and as the work has grown upon me, other complications in the way of pelvic trouble have also been treated with a result that has rather surprised me. For it I claim nothing original. A year ago last fall, I commenced the treatment of a case of general metritis and prolapsus of both ovaries with enlargement, which had brought the woman to a very low state. She had had all sorts of operations performed and advised,—repair of the neck of the uterus and the perineum for laceration,—and had been recommended to have the ovaries removed. Upon examination I found the uterus immovable. I placed the woman in the genu-pectoral position and tamponned the vagina with absorbent cotton, saturated with boro-glyceride. The vagina was douched before the tampon was reapplied, and of course everything was removed during menstruation. This was kept up for three months and she began to have less neuralgia, which had made her life miserable. I kept up the treatment three or four months longer, when there was complete mobility of the uterus, and she went out of doors and to church. The neuralgia subsided, the tenderness of the uterus and the ovaries entirely disappeared, and her condition was so much improved that it seemed to me that this was an efficient means of treating pelvic troubles. In the midst of this work I found that Dr. Englemann, of St. Louis, was utilizing the same idea. He was using medicated applications such as iodine, carbolic acid, sulphate of zinc, tannin, iodoform, etc., and he made this subject the text of his annual address to the Gynæcological Society of St. Louis. I think the gist of his paper was incorporated in the report I made to the State Medical Society last summer at Bloomington. Since then, in all sorts of cases of uterine inflammation, I have been making applications of the cotton tampon, resulting in considerable dissatisfaction with the material employed, and I have commenced the use of something else. It is a preparation of wool that is called “antiseptic wool.” This wool is finely carded, free from all oil and foreign substances. A piece is cut off, of such a length as will fit

nically into the vagina, and then with the patient in the genu-pectoral position, with the perineum retracted, this is stuffed into the vagina and left there. The upper end of this tampon can be soaked in any antiseptic solution, as boro-glyceride or listerine, and with a piece of string attached to the lower end of it, the patient can remove it and douch the vagina, in readiness for the next tampon, and in this way tampon after tampon can be introduced and the uterus held up to the highest possible level, and advantage taken of the natural drainage from the uterus of the superabundant amount of blood. The inflammations of the uterus we are usually called upon to treat are not active, but chronic, and if we hold the uterus up so that it can drain itself properly through the veins, the nutritive changes which take place will be facilitated to the greatest extent. A small Sims' speculum can easily be applied without trouble to the patient, and this wool can be pushed into the vagina so that when the patient gets up she has a soft elastic cushion for the uterus to rest upon. In this way the greatest comfort is at once experienced. I have treated between twenty and thirty cases in this way. One case was a woman with a severe laceration of the neck of the uterus; the probe went into the cavity about $4\frac{1}{2}$ inches. Local treatment had been freely employed in this case. She had pain in the legs and hips and profuse menstruation, and was a total wreck when I saw her. I put her in position and applied the tampon. I found after using four or five of them the pains had nearly all disappeared. I found also that the raw edges of the torn cervix were taking on a new mucous membrane, and I had the gratification of finding, after six months, that this uterus had been reduced to its natural size. It was with difficulty the laceration could be recognized through the speculum. I have recently been called to see a woman who has inflammation of the ovary upon the right side. I found her in bed, where she had been five months continuously. Upon moving the uterus, I found there was a great deal of tenderness throughout the pelvic tissues and around the right ovary, the slightest touch producing the greatest suffering. The woman was put in the genu-pectoral position and the vagina plugged with this wool. She got out of bed the next day, and the next night went down to dinner. Now she is going all over Chicago. Before that she had been treated nine months by means of local applications, tonics, laxatives and everything of that kind.

The result of the support of the uterus and holding the ovary up has been almost marvelous. I make these state-

ments concerning this method of treatment for the purpose of calling attention to it, as I am still studying the subject. These tampons are removed after four or five days without the slightest odor upon them.

When the uterus is enlarged it becomes heavy, sinks, and presses the veins which carry the blood out of the uterus, and we have strangulation. By raising the uterus up, the blood flows freely and the nutritive changes tend always to health. One outgrowth of the use of this tampon may be that many cases of laceration of the cervix, now operated upon, may escape operation. I have been surprised to see how very nicely patients get along, even though they have extensive lacerations, under this treatment.

W. W. JAGGARD, M.D.

2330 Indiana Avenue.

CHICAGO MEDICAL SOCIETY:

Stated Meeting, January 3, 1887.—THE PRESIDENT, EDMUND J. DOERING, M.D., in the Chair.

DR. E. J. KUH read a paper on

THE ETIOLOGY AND CURE OF ASTHMA.

The work of Wilhelm Hack on the radical treatment of migraine, asthma, hay-fever and other neuroses, has received very inadequate recognition in this country. He teaches that the rhinoscope must be as indispensable an instrument for all physicians as the thermometer and stethoscope.

The value of Hack's discovery, that asthma nervosum is a reflex disease with, usually, the nose as the starting point, can best be appreciated by one who himself, for many years, struggled against the disease. If I, therefore, in the course of this paper, class myself among my own patients, I shall do so with the view of bringing the subject within closer range.

The form of asthma of which I wish to treat exclusively is asthma nervosum, or "Essentielles Asthma" of the Germans. Some persons never get beyond a slight hint of asthma. They will from time to time make a heaving, sighing motion, or complain of præcordial fullness with or without palpitation, or of sudden drowsiness, or dream heavily at night and complain of dullness, lassitude and headache in the morning. This latter condition has many gradations, the culmination of which is nightmare. We must, therefore, learn to distinguish between an incubus of gastric and of respiratory origin. Other half-asthmatics complain only of a fleeting, leaden heaviness in the limbs amounting almost to pain; the same sensation of which so many true asthmatics complain after an asthmatic night. The typical asthma nervosum is a neurosis occurring in paroxysms.

The patient may or may not feel an aura. He will generally, towards

evening, or when he lies down, or awakes in the night, begin to wheeze. This wheezing may be associated with itching in the nose, or sneezing, or coughing; the attacks last an indefinite time, and generally end with the expectoration of a transparent glassy mucus. Such patients are often free from asthma during the day. Physical and chemical irritants, such as dust, sudden changes in temperature, the inhalation of certain gases, and a long series of idiosyncrasies which we find enumerated in text-books, can induce an attack. But the recumbent position is the most uniform, exciting cause of the single paroxysms. Such patients may be free from chronic bronchitis, chronic emphysema, heart-, kidney-, intestinal- and uterine disease: hence the term "Essentielles Asthma."

It is merely an evasion to say that asthmatic paroxysms are induced by bronchial spasms, or by hyperæmia of the bronchial lining, or by the presence of Leyden's crystals, or by phrenic spasm, or by bulbar irritation, or by exudative bronchiolitis. For any one of these presumable causes would demand a first cause, in order to merit etiological dignity.

A true etiology of asthma had therefore to be discovered, and Hack did it in the following manner: He found that he could experimentally produce glottis-spasm by touching the turbinated bodies of a sensitive individual with a probe. He then reasoned as follows: A nasal mucous membrane which shows merely slight affection, and which is not deadened in its sensibility by thickening and hypertrophy, is perhaps a better surface for exciting reflexes than one which shows evident signs of disease.

He systematically examined the nose of every patient who, for whatever ailment, came within his reach. He learned to make one distinction very rapidly, namely: that what is usually termed hypertrophic nasal catarrh is a twofold condition, which produces quite opposite effects. In the anatomically true rhinitis hypertrophica the mucous membrane is really thickened, hypertrophied through chronic inflammation. Pressure with a probe meets with a certain unyielding resistance, and there is a purulent, crusty secretion. This form does *not* give rise to reflex disturbances.

But there is another form, a pseudo-hypertrophy, the importance of which it is Hack first pointed out. It is that transitory swelling of the cavernous tissue of the inferior and middle turbinated bodies, which has of late been so often described. In this form the nose may either have a very dry, itchy sensation, or show copious watery secretion. Compression with a probe gives the air-pillow reaction. Such individuals show fleeting alternate or synchronous obstruction of the nasal cavities. Often, when examining the nose of the patients, we notice sudden engorgements and collapse, so that Hack's term erectility is not an exaggeration. These cavernous bodies with their frequently anæmic covering form a link in certain morbid reflexes, and when this link is destroyed through operative intervention, the reflexes cease. No symptom is more frequently overlooked by patients than transitory nasal obstruction. Most patients will positively deny its existence, until it is demonstrated to them. Therefore the assur-

ance of an asthmatic that his nose has always appeared healthy is of no value.

The theory of Hack is a simple one, and although it does not cover all the ground, is a very satisfactory one. He says that the turbinated bodies become engorged through various irritants, and that this vaso-dilatatory disturbance is transmitted to the bronchial tubes in asthma. The turbinated bodies act as accumulators for reflexes, store them up, as it were, and then transmit them to other parts. A destruction of the nasal swelling removes the reflexes. The experiences of numerous writers since 1883 corroborate the correctness of Hack's discovery.

By way of illustration I could not, I believe, select a better type of asthma of long standing than that of my own person. Twenty years ago, when I was 8 years of age, I became subject to so-called colds in the head and on the chest. They increased in severity and frequency from year to year, so that my surroundings were often puzzled to find an explanation for each outbreak. Presently nightly dyspnoea began to set in, in the following manner: During the day my respiration was quite free, but as soon as my head touched the pillow, the first wheeze set in; the paroxysms were very severe. They ceased, after lasting throughout the night, in the morning, with the usual expectoration of glassy mucus.

During the day there was never any difficulty, except when occasioned by laughter. Laughter would infallibly cause itching under the chin and between the scapulae, then I would cough convulsively and the attack was upon me. But the recumbent position was the surest exciting cause. During the first years I also suffered from that form of conjunctivitis which is now known to arise from nasal disorder.

The greater part of 1870 to 1875 I spent in the Swiss mountains, where I was entirely well. During this period I developed a peculiar idiosyncrasy towards dinner. In the midst of the meal I would invariably for weeks would be seized with a convulsive cough, so severe that it threw me to the ground. Asthma was never absent in these attacks. Then, at other times, one or two or three sneezes would initiate an asthmatic attack; or sometimes, especially after traveling, I would sneeze sixty or seventy times without intermission. In those years I had the sensation as if the asthma were brought on by a swelling which seemed to begin above and behind the palate (it was associated with intense itching, which I attempted to relieve by rubbing my tongue against the hard palate), and traveled downward to the posterior pharynx, then seemed to skip the larynx and continued from the trachea downward. This phenomenon lasted a few seconds, and then the attack began. Railroad travel would invariably cause a night of asthma. One hotel, at which I was frequently obliged to stop in Germany, adjoined a stable, and was regularly the cause of some of the severest attacks.

The inhalation of Kidder's asthma pastilles—the only palliative I ever used successfully—gave me very great relief. They not only immediately

terminated an attack, but also prevented their occurrence for the next few hours.

As soon as I became acquainted with Hack's articles in the *Berliner klin. Wochenschrift*, of 1882, and with his monograph in 1883, I commenced stricter self-observation, and found the following:

As soon as I lay down, my nose would become obstructed. The occlusion corresponded to the side on which I lay. By turning over, the occluded side would open and the other close. To have any part of the nasal mucous membrane touched by a probe gave such intense pain that I could not suppress an outcry. I could bring on an attack of asthma by rubbing my *ala nasi* against the septum.

Never did I feel the slightest dyspnoea when nasal respiration was free, and never was nasal respiration obstructed but what I felt asthmatic distress.

Under these circumstances there could be no hesitation, and I had the galvano-caustic "destruction" of both inferior turbinated swellings performed. I have found the radical obliteration of the entire inferior turbinated bodies almost an impossibility. Hack demands, and my experience confirms the correctness of his view, that the radical cure of asthma demands the radical destruction of the cavernous erection.

What is it that causes nasal occlusion? I have observed myself so closely in this regard, and have so many corroborative observations of intelligent patients, that I can make these positive statements:

Firstly, the fullness of the turbinated bodies is regularly influenced by gravitation, and corresponds to the position of the head.

It is furthermore influenced by the temperature, and probably much more so by artificial warmth than by cold; an over-heated room will almost invariably cause swelling in such patients. But the most dangerous and permanent cause of nasal obstruction is the inhalation of dust.

When are we to operate on asthmatics? The more recent the asthmatic trouble and the more pronounced the nasal symptoms, the better the prognosis. When complicated with chronic bronchitis and chronic emphysema, the outlook is generally bad. A most thorough examination of heart, lungs, kidneys and intestines should precede any operative interference. In cases of cardiac and nephritic asthma with nasal complications, I have *never* cauterized. In cases of long standing, say fifteen or twenty years, in which in the first years the nasal symptoms were very pronounced, but in later years have almost or entirely disappeared, cauterization is sometimes successful, but generally is unsuccessful.

Cases in which the asthma is more or less constant and has lost its paroxysmal nature, give a doubtful prognosis. It has been a matter of experience with me, that these patients to whom the inhalation of Kidder's pastilles, or the application of cocaine to the nose (four per cent. solution on cotton), gives relief, afford a much better prognosis than others.

In asthmatics in which coughing precedes the attack and all nasal symptoms are missing, nasal cauterization will cure, if the cough is a so-called nasal cough.

There are a number of asthmatics, fortunately a minority, who seemingly offer a good prognosis, but with whom, for unknown reasons, the operation will fail. There can now be no doubt that there are other starting points for reflexes in the respiratory tract, besides the nose. The works of Trautmann and Tornwaldt have already added the vault of the pharynx to this list.

The bronchial tubes themselves can act as a starting point, as I can demonstrate on myself when I walk against a piercing wind, or inhale vapors of sulphurous acid with my nose plugged. So that, as Hack himself warningly says, we must not over estimate the applicability of his discovery.

We must accuse the nose *per exclusionem*. Examine every patient thoroughly in every direction, and examine the nose *last*, is what I should like to advise.

About the operation itself, little is to be said. It is, as far as we know, absolutely harmless. I have performed many hundred cauterizations without any noteworthy complications. I have never had any traumatic infection. I insufflate iodoform or iodol upon the wound, introduce a pledget of cotton for a few days, and keep my instruments aseptic.

The results are, on the whole, extremely gratifying. Asthma of many years' standing is sometimes broken after the very first cauterization. Almost all patients are relieved and many cured in the strict sense of the word. Some have relapses, which additional cauterization will remove. Others again may relapse with a new reflex sensitiveness in other parts.

PROFESSOR J. A. ROBISON, in opening the discussion, said: The facts, which are indeed facts, that have been related in this paper are of interest not only to the specialist but to the general practitioner. It has been a fact long known to specialists that obstruction of the passage of air through the nares will give rise to asthma, and a great number of articles have been written on this subject. It has also been demonstrated that when operations have been performed that cleared away these obstructions the relief from the asthmatic attacks was complete. This can be easily demonstrated by any physician. Cases of nasal polypus are quite frequent, and they do not always fall under the care of a specialist. The operation is generally a very simple one; almost any physician, without special training, can remove nasal polypi, and it is really wonderful to find how many cases of asthma are thus cured. As to asthma being due to other causes, he had no doubt of the truth of the observation made by the author, that is, that transitory swelling which takes place in the turbinated bodies in cases of mild irritation. He presumed we have all noticed that when we are affected with an acute coryza and go to bed at night the narium of the side on which we lie becomes obstructed, and if we turn over the other side will become obstructed. This is undoubtedly due to the force of gravitation in a great many cases where the mucous membrane is especially sensitive. There is no doubt that in a great many cases by the irritation of a probe, or the inhalation of dust, coughing can be produced resulting in asthmatic attacks.

Therefore this demonstrates that reflex irritation of the nares is one of the causes of asthma, and it points out very clearly the method of treatment which should be instituted. The author has rendered a service in showing that there are such a large number of cases in which by destroying the turbinated bodies we can prevent the occurrence of reflex asthma. It would have been an interesting question to solve whether, in the case of the author's special experience, a respirator worn over the nose so that the air could not pass through the nose unless filtered, would have been of any benefit in preventing the recurrence of the asthma.

DR. H. MARTYN SCUDDER: About five years ago, when practicing in India, where he had to ride on horseback a great deal in the sun and breathe a great deal of dust, he suffered frequently from acute attacks of coryza, accompanied occasionally by bronchitis and slight asthma. The nose was not much obstructed, and when an attack of coryza came on, fifteen minutes' sleep would often cause it to pass away. Gradually the attacks became more severe and were accompanied and followed by some obstruction. When in London more than three years ago, Doctor Mackenzie wanted to cauterize his nose, but it was before the days of cocaine, and he decidedly objected, as he thought the remedy worse than the disease. Since coming to Chicago he has been troubled less than when abroad. Quite recently he had his nose cauterized by Dr. E. Fletcher Ingals, and it has certainly relieved the trouble to a very great extent. His experience, however, was somewhat different from Doctor Kuth's, as the cauterization gave considerable trouble for a week or two. It was followed by soreness and even by slight chills, and it made him feel out of sorts for about a fortnight, but it was successful in relieving the obstruction, and he has had no more asthma or bronchitis, although once in a while he still suffers from attacks of coryza.

DR. JOSEF ZEISLER said: Professor Schnitzler, of Vienna, has published a number of cases in which decidedly polypus of the nose has caused asthma, and where by the removal of the polypus the asthma was cured. He can confirm what Doctor Kuh has said in regard to the effectiveness of the galvano-cautery. He had a case of a boy 12 years old, who had nearly all his lifetime had chronic eczema of the hands and asthma. Believing that the asthma was the casual relation to the eczema he referred the patient to Doctor Kuh for treatment of the former trouble, while he prescribed local applications for the hands. Very soon both affections were cured and have remained so for the last year.

DR. H. N. MOYER asked what the author means by the term essential asthma, whether he means reflex asthma or something different?

DOCTOR KUH, in closing the discussion, said: "By essential asthma he of course means, as he had been attempting to explain all the evening, reflex asthma; the same asthma which text-books classify as idiopathic or nervous or essential asthma. In lieu of these clouded expressions we have now, fortunately, a term by which we express an etiological meaning,

nally, nasal asthma. It teaches us again, that the term neurosis always smacks of the hypothetical; and that when we speak of any pathological condition as a neurosis, we do so in order to cover ignorance. An asthmatic individual is not necessarily a "nervous" one, although he, of course, is not blind to the fact that some unknown factor must come into play in order to affect disease through nasal reflex. In regard to Doctor Zeisler's remarks on the connection between polypi and asthma, he did not know that Schnitzler, of Vienna, had published forty cases of nasal polypus with asthma. He was greatly surprised that such a publication should have escaped his notice. He quoted Michel, of Berlin, as having reported 135 cases of polypus without asthma. There is no doubt that sometimes nasal polypi cause asthma, but as far as he is aware, only exceptionally so. Hack found that when a patient had polypus with asthma and he left the polypus untouched and cauterized only the turbinated bodies, the asthma disappeared, although the polypi remained in the nose. He thinks there can be no better evidence of the relative innocence of polypi than that experiment. He has been asked whether, if he had worn a respirator he would have been free from asthma in traveling. He found that to be the case. For when he plugged his nose with cotton while traveling he remained free from asthma. Doctor Scudder said that nasal cauterization gave him trouble for weeks. This could only have been through wound complication. An asthmatic may have very severe trouble for a week or less after cauterization, on account of the eschar.

In order to show how careful one must be in diagnosis he would like to interpolate the following description: A patient with the mildest form of asthma, namely, the occasional involuntary deep, sighing inspiration, consulted him. The examination was negative with the exception of slight tympanites (the abdomen should always be carefully examined in such cases) and slight swelling of the inferior turbinated bodies. He treated his mild constipation for weeks without any benefit to his respiratory trouble. Then, he cauterized, also without effect. At last he discovered that his *alae nasi* were so pliable that when he inhaled through the nose they collapsed and occluded the nares. In regard to the claim that injections of boracic acid solution into the nose will relieve asthma, he would simply refer to the uniformly condemnatory verdict of all specialistic practitioners against the use of the nasal douche in such cases.

PROFESSOR ALBERT WING, Pathologist to Cook County Hospital, showed

A HEART WITH ATHEROMA AT THE BASE OF THE AORTA AND IN THE
MITRAL VALVE,

and a condition described by the Germans as *prior chronic endocarditis*. The last mentioned lesion manifests itself in the distribution of grayish streaks or patches on the endocardial surface, lying irregularly distributed over it. When this lesion has proceeded far enough fatty degeneration follows, shown by patches which appear slightly yellowish to the eye.

The patches upon the valves are upon the anterior segment of the mitral. They are simply interesting and would cause no symptoms whatever. He did not know that such a case has any further interest than that these things very frequently exist, and in his experience more than a majority of cases upon which autopsies are held at the County Hospital, present lesions of prior chronic endocarditis.

PROFESSOR WING also exhibited

A LUNG ILLUSTRATING ONE OF THE POINTS OF DIFFERENTIAL DIAGNOSIS
BETWEEN A CAVITY RESULTING FROM TUBERCULOSIS AND ONE
RESULTING SIMPLY FROM DILATATION OF A BRON-
CHIAL TUBE IN BRONCHIECTASIS.

That point is the persistence of bands, or stumps of bands, of the more resisting tissues which remain, sometimes passing across the cavity. As the fibrous tissues are more resistant than the others in the lung they are last to disappear in the necrotic process. In this specimen there are a few cavities in the apex, some of them large, and the tubercular infiltration extends entirely to the base of the lower lobe of the right lung. There was extensive adhesion of the two layers of the pleura over the lung.

PROFESSOR W. T. BELFIELD asked for a repetition of the diagnosis distinction between cavities due to tuberculosis and bronchiectasis.

PROFESSOR WING said a cavity resulting from bronchiectasis has a smooth membrane, and upon washing it, no stumps of these bands can be seen upon its floor; but in a cavity resulting from tuberculosis there are always some of these stumps or bands present. Sometimes they are very short, at other times long, and at times, as in this case, they are easily seen and demonstrated.

DR. A. V. PARK read a report of

A CASE OF ANTE-PARTUM HÆMORRHAGE AT TERM; RECOVERY.

On August 5 the author was called to see Mrs. S., a well-built and intelligent American-born Irish woman. This was her ninth confinement, and she had had six miscarriages. She had received no injuries while carrying this child except running against an obstruction in the yard which gave her a slight shock. The evening previous she had had severe hemorrhage but no real labor pains. A careful examination was made and the bedding found wet with blood, but no evidences of continued uterine hemorrhage. Vaginal examination revealed a rigid undilated os high in the pelvis. At 3 o'clock examination was again made and the os found soft and the head presenting. The pains were irregular and had no effect upon the cervix. At 11 o'clock true labor pains came on; os soft and dilated, head at the brim of the pelvis, cervix rigid with each pain. The liquor amnii having all escaped with the so-called hemorrhage the expulsive efforts accomplished little. At 2:30 A.M. everything seemed favorable for an early termination of labor, but it was soon noticed that while the pains were severe they were not propulsive. The patient was restless and thirsty, and the danger of concealed ante-partum hemorrhage was realized. The only thing to be done was to deliver at once. The patient was placed

across the bed and the membranes ruptured, which was followed by a small gush of blood. Then the forceps were applied and a still-born child delivered which had probably been dead six hours. The child was given to the nurse, and with the left hand over the fundus of the uterus a gentle pressure was made. The uterus soon began to contract and expel its contents, the blood and blood-clots that were forced out filling a wash-basin. The placenta was high up and normally situated, and easily removed, when the hemorrhage ceased. Ergot was given and the patient made as comfortable as possible. The author concludes that the hæmorrhage was caused by a partial separation of the normally situated placenta, and that the head of the child acted like a ball valve, which prevented the escape of the blood externally; that a portion of the blood found its way into the anniotic cavity, which would account for the slight hæmorrhage that followed the mechanical rupture of the membranes previous to delivery. He thought that in cases of internal hæmorrhage during labor the treatment should depend upon the stage of the labor and the amount of blood lost. If the patient be in danger of sinking and the os dilatable, but the head within the uterus, delivery should be performed by turning. If the loss is moderate wait until the head descends into the cavity of the pelvis. In all cases where possible forceps should be used for immediate delivery. The child is lost in almost every case of extreme hæmorrhage.

DR. A. V. ARK reported

A CASE OF PYELITIS OF NINETEEN YEARS' DURATION, CAUSED BY A RENAL CALCULUS. RECOVERY.

The patient was 30 years old, of slight physique and nervous temperament. His sufferings were excruciating. First attack occurred when he was 11 years old, during convalescence from scarlet fever. He was an engineer, and when exposed while covered with perspiration his old trouble would inevitably follow. He had received treatment from some of the best physicians and surgeons, and had taken almost every kind of medication, but without relief. He had taken such quantities of narcotics that it required a phenomenal dose to affect him. He had never passed calculi with his urine so far as he knew, and the entire amount had been saved and examined time and again always with negative results. Morphia was given hypodermically and a careful examination made, the urine being subjected to an analysis. Then came the question, what should be done for the patient? The best surgical authorities agree that renal calculi are generally composed of uric acid or oxalate of lime. Dr. Belfield advises the injection of large quantities of alkaline water, and says that in pyelitis caused by renal culculi it affords the only hope for radical cure by medical means. Calculi have been dissolved by copious injections of simple rain-water, and the same result can be obtained by water which contains the proper ingredients to give it an alkaline reaction. On May 13 the patient was in great suffering. Morphia was administered, and a line of treatment mapped out which was followed faithfully. The patient was directed to drink Waukesha water often in large quantities, and tincture of digitalis $\frac{1}{2}$ oz., fluid

ex. hydrangea 2 oz., calisaya enough to make 4 oz. were prescribed, one teaspoonful every six hours. A milk diet and $\frac{1}{2}$ dr. Carlsbad sprudel salts in a glass of water before breakfast was advised. In order to facilitate the washing out process the system was relaxed by anodynes, and hypodermic injections of morphia and atropia were given and hot poultices applied. This treatment, with the injection of large quantities of water, was continued during the night. At 8 o'clock A. M. the patient was free from pain and had passed a large quantity of dark colored urine in which was a calculus weighing 14 grains, oval in shape, with numerous headlike elevations composed of uric acid. On analysis the calculus was found to be composed principally of oxalate of lime. The patient said that he could distinctly feel the stone when it dropped into the bladder. The treatment was continued and the kidney troubles soon ceased. It has now been seventeen months since the last attack, and he is robust and strong.

CHICAGO MEDICAL SOCIETY.

Stated Meeting January 17, 1887.—THE PRESIDENT, EDMUND J. DOERING, in the chair.

DR. LYMAN WARE read a paper entitled

A CLINICAL STUDY OF GLAUCOMA.

The author briefly referred to the history, pathology and etiology of glaucoma, and expressed his belief in the curative power of Von Graefe's operation of iridectomy. Unmistakable symptoms of glaucoma are supra-orbital and ciliary neuralgia, increased ocular tension, periodical diminution of vision, the appearance of a halo around artificial lights, a sluggish and widely dilated pupil and a shallow anterior chamber. Although increased tension may be associated with other diseases of the eye, its presence should always lead to a critical examination. Several cases were detailed: Mrs. M., aged 50, while riding in an open street-car, contracted a severe cold, which was followed by neuralgia over both eyes. The pain was so intense that she was at times delirious. Her weight was reduced from 110 to 80 pounds. She became entirely blind. On account of the eye being small and deeply set and the anterior chamber very shallow, sclerotomy was advised and performed. This gave immediate relief, but the pain returned again in a few days. When Doctor Ware saw the case the anterior chamber was almost obliterated, the glaucomatous lens pressed the iris forward until it came in contact with the cornea. With a Von Graefe cataract knife a free sclero-corneal incision was made and a portion of the iris excised, and the lens removed from both eyes. The pain greatly subsided, but the sight was irrecoverably lost. Another case was a man *æt.* 52 years, who complained of having had a pain in and over the left eye for five or six months, and had seen the halo about street lights. On examination tension was found increased, vision diminished one-half. Some months later iridectomy was performed, and a solution of eserine (4 grs. to the oz.)

instilled every four hours into the other eye. Pain was at once relieved and all symptoms of glaucoma rapidly disappeared. Mrs. M., aged 45, had frequent attacks of neuralgia, and noticed defective vision in the left eye six months before coming under observation. Tension was found much increased; she had seen halo about artificial lights for eight or ten months. Distant objects could be clearly perceived by right eye. Iridectomy was performed on the left eye with a view of abating the pain and preserving the vision of the right eye. The relief from pain was great, vision of the right eye fully restored and left eye much improved.

PROFESSOR E. L. HOLMES reported .

A CASE OF FOREIGN BODY IN THE ANTERIOR CHAMBER.

The case was of special interest to him on account of the difficult diagnosis and the difficulty attending the removal of the foreign body. The doubt regarding the diagnosis arose from the fact that there was a small central perforation of the cornea. Below this, and not connected with it, was a fine greyish line extending downward and inward (R. eye), apparently in the substance of the cornea, fairly into the angle of the iris and cornea. This resembled the channels left after the removal of fine slivers of grain stalk which are sometimes thrown into the cornea obliquely from threshing-machines. The patient explained the accident as follows: He was setting a machine punch so that the punch would accurately fit the die. The power was applied, when the punch did not accurately correspond to the die. At the same instant something entered the patient's eye. Patient was first seen twenty-four hours after the accident with the eye slightly red, but not painful. Atropine was prescribed and he was sent to the hospital. The next morning the pupil was round and fully dilated. The media were all clear. The doctor felt great anxiety in regard to the case, but inasmuch as during five days there were no symptoms of inflammation along the supposed track in the cornea, he finally became convinced that there was a fine splinter in the interior chamber, in close contact with the cornea.

He made quite a long incision through the lower border of the cornea, the knife touching and moving the piece of steel, and endeavored by means of a fine forceps to seize the lower part of the steel and disengage the point from the tissues at the angle of the iris and cornea by carrying the steel farther towards the pupil. This was found to be impracticable, since the lower end of the piece was firmly held by the tissues. He used all the violence considered warrantable. As the anterior chamber was without aqueous humor, there was some difficulty in further procedure without violence to the lens or iris. He consequently extended the wound in the cornea upward so the upper end would correspond with the upper end of the steel. This end was easily seized and with considerable force withdrawn. The splinter was three-sixteenths of an inch in length. Eserine at first, then atropine with antiseptic dressings were applied with great care. There was no reaction, the patient recovering perfect sight, except

as far as there was dimness from the central cicatrix in the cornea. Vision was good five weeks after the patient had returned home.

PROFESSOR HOLMES also reported

A CASE OF INTRA-OCULAR TUMOR.

This tumor, filling the sclerotic, is a sarcoma of the choroid. The patient, a man 62 years of age, had been under the observation of several specialists during the past year, but could not give me a definite expression of their opinion. When first seen, a few days ago, the cornea was perforated and presented a staphylomatous projection of the growth. For a year there has been pain and for the last six months very great pain. The tissues of the orbit around the globe were greatly swollen, but not indurated. In enucleating the eye he expected to find the sclerotic destroyed posteriorly and the orbital tissues invaded. The enucleation, however, was performed as easily as in ordinary cases. The optic nerve is seen to be enlarged several millimetres behind the sclerotic. The swelling in the orbit was caused by nodules of fat filled with numerous blood-vessels. Dr. Ochsner pronounces the tumor to be a small round-celled sarcoma with very little pigment. The nodules of fat are free from sarcoma cells. This class of tumors, if removed early, are not very liable to return in the orbit. They may, however, reappear, especially in the liver or other internal organs. They must, consequently, be regarded as quite malignant.

DR. BOERNE BETTMAN read a paper on the

CONNECTION BETWEEN OCULAR AND NASAL DISEASES.

The author thought that numerous pathological conditions of the eyes and lids are attributable to abnormal changes in the nose, and that in these cases treatment of the ocular organs alone will fail to alleviate the trouble. After referring to Hack's monograph on the subject, Dr. Bettman detailed several cases in substantiation of his theory: A boy of 10 applied for treatment of epiphora of both eyes. The eyes were constantly weeping. An examination of the nose revealed an extensive swelling of the anterior portion of both turbinated bones. When these parts were touched with the probe profuse lachrymation was induced, and a light thrown into the eye by means of the ophthalmoscope produced violent sneezing. A deep incision was made in the swelling with a knife electrode, and a flat burner was also employed. The slough was completely thrown off in fourteen days and the boy cured in one month, the eyes receiving no treatment. Polypi of the nose have been found to produce secondary affections of the eye. Hermann S. was prevented from following his trade of a cabinetmaker on account of the excessive flow of tears; he also complained of pain in the eyes. Polypi were removed from the middle turbinated bone with the Jarvis snare and a cure effected. E. B., aged 16, was extremely sensitive to light, and the eyes were both bathed in tears. Each time the eyes were exposed to a glare of light she sneezed violently. There was Hack's swelling in both nostrils. Two pledgets of cotton were soaked in a 5 per cent. solution of cocaine and allowed to remain five minutes at a time. There

was an immediate effect, and in three-quarters of an hour she was able to bear the light. The patient refused cauterization and employs cocaine to avert photophobia. The majority of cases coming under Dr. Bettman's observation have been treated by applications of the galvano-cautery to the nasal mucous membrane. The applications restricted to the anterior end of the turbinated bone frequently fail to give relief. It has been found that a sensitive area exists at the posterior end of the inferior turbinated bone and also at the anterior part of the nasal cavity, in the angle forming the boundary of the vestibule. In conclusion, the author thought oculists should always subject the nose to a thorough examination when seeking the source of ocular complaints.

DR. H. M. STARKY read a paper entitled

SOME MODIFICATIONS IN THE TREATMENT OF STRICTURE OF THE NASAL DUCT.

The author said that about 1883 the Western Suppository Co. made a lachrymal bougie of medicated gelatine of such elasticity that it could easily be passed into the nasal duct. It was less painful than a metal probe, and its slow solubility kept the mucous membrane at the point of stricture distended so that it could be acted upon by the medicine from thirty to sixty minutes. He thought results showed the use of electrolysis in these cases to be often unsatisfactory. The object to be attained is to restore the diseased parts to as nearly a normal condition as possible, and the most satisfactory treatment is by using injections more and probing less frequently. The author determined to try the effect of probing the punctum without slitting the canaliculus, followed by astringent injections over the inflamed surface. This treatment proved entirely satisfactory, and in about five weeks a patient went to his home in another state with apparently perfect recovery, and no destruction of tissue.

The following case was given as illustrating the author's method of treatment: Mrs. L. suffered from lachrymation of each eye for two years. There was severe lachrymal conjunctivitis of the right eye, the punctum being contracted one-half. On dilating the right punctum a No. 2 probe could be passed without difficulty, but the whole interior of the nasal duct had the peculiar velvety feeling that is caused by thick villous mucous membrane. The same condition, in less degree, was found on the left side. Treatment was commenced by applying a weak astringent and washing out the lachrymal canals thoroughly each day with boric acid lotion, followed by a weak astringent. Once a week a probe was passed through the dilated punctum down to the naris, using a larger probe each time until No. 7 was reached. The result was satisfactory, and in six weeks the patient returned home apparently well.

PROFESSOR W. FRANKLIN COLEMAN read a paper on

SYMPATHETIC OPHTHALMIA.

Disease in the sympathetic eye generally occurs when there has been a wound or operation in the dangerous zone of the diseased eye. Becker, in 1875, collected twenty-two cases of sympathetic ophthalmia from

cataract operations, foreign bodies lodging in the eye, and degeneration of a lost eye, or other causes. Doctor Coleman read in detail the clinical history of the disease, and enumerated the causes, histories and results of the treatment of a large number of cases. In regard to treatment he advised as follows:

CONDITION DISEASED EYE.	CONDITION SYMPATHETIC EYE.	TREATMENT.
Blindness.	Normal.	Enucleation in unintelligent and children.
Blindness.	Sympathetic irritation.	Enucleate.
Blindness.	Sympathetic inflammation.	Enucleation not often advisable.
More or less vision.	Normal.	Do not enucleate generally.
More or less vision.	Sympathetic irritation.	Better enucleate.
More or less vision.	Sympathetic inflammation.	Do not enucleate.
Acute ophthalmitis.	Normal.	Never enucleate.
Acute ophthalmitis.	Sympathetic irritation.	Puncture and foment diseased eye, then enucleate.
Acute ophthalmitis.	Sympathetic ophthalmitis.	Treat ophthalmitis, and then enucleate.

PROFESSOR F. C. HOTZ said: He thinks the theory of the author in regard to the closing of Schlemm's canal and the approximation of the iris to the cornea interfering with filtration cannot account for glaucoma. Pathological anatomy has so far failed to find the cause, and we have to rely on clinical studies to build up a theory which will account not for the late stage, the fully developed glaucoma, where the sight of the eye has been permanently destroyed by the disease, and which the pathologist gets from the oculist after enucleation, but for the first stage, the premonitory symptoms before it becomes an acute attack; a stage which the pathologist has not yet investigated with his microscope. At that stage who can say certainly what glaucoma is? It is probable that various causes lead to the same result. He believes that the agglutination of the iris to the cornea, the compression of Schlemm's canal or any other part of the eye, are consequences, and are not primary causes of glaucoma. He was somewhat surprised that, in a paper addressed to general practitioners, the author attached so little importance to the clinical symptoms in glaucoma, of a general character, such as gastric and febrile disturbances in connection with hemispheric headache. These symptoms often cause the practitioner to fail to discover glaucoma. He recalled a number of such instances. Last October a lady came under his care who had been under the treatment of a physician for four or five weeks for malarial fever and dyspepsia, which was the beginning of an undoubtedly characteristic and typical attack of glaucoma. But the attending physician's attention was attracted by the coated tongue, the nausea, vomiting, severe headache and excited

pulse, and he treated the patient for these daily attacks of headache, while he diagnosticated malaria, and used antiperiodic remedies, utterly disregarding the condition of the eye, although the sight was at first nearly extinguished, and only returned to a certain extent after the attack lost somewhat its severity. Another case: A poor woman lost one eye from glaucoma ten years before; the eye was blind and hard, showing the characteristic state of an eye in which glaucoma had run its course. She was attacked by a severe pain in the head extending over the left side, could not sleep for several weeks, was nauseated, vomited, and showed symptoms of some general disturbance. The physician treated her for the stomach trouble and headache, and although she told him time and again that her sight was getting poor, and suggested that an oculist had better examine her eye, he paid no attention to this, and the result was that two months after this attack the sight was entirely gone and could not be restored. In still another case both eyes were neglected until the patient could perceive only a little flicker of light, before it was considered necessary by the attending physicians to pay any attention to the eyes. Dyspepsia, gastric fever, malaria, and sick headache were the diagnoses, and the treatment was in accordance. He thought it well to bring out these points, and to call the attention of every physician to the fact that such attacks sometimes mean something more serious than a disturbance of the stomach, and that when the patient, during such attacks, speaks of the eyes as being troublesome, or the sight as becoming dim, it is worth while to pay attention to it, and to remember that acute glaucoma is often ushered in with these general constitutional symptoms.

DR. LYMAN WARE said, he had only a word to say about the disturbance of the equilibrium of secretion and excretion. It has been fully demonstrated that it is only by restoring the equilibrium that sight is saved. He quite agrees with Doctor Hotz regarding febrile symptoms, but it is his experience that they are *secondary* rather than *primary*.

DR. HENRY GRADLE said: The cases which Dr. Bettman presented are of great interest from the fact that they have only lately been recognized. Dr. Gruening, of New York, was the first to point out that there existed affections apparently of the eye, but which in reality originated from the nose. He has watched for these cases ever since Gruening's paper first appeared, and would say that the cases in which the nasal trouble is *entirely* the cause of eye disease are not very frequent. But he had seen instances where affections of the eye were certainly complicated by nasal trouble, and the nasal trouble prolonged the eye disease. He recollected a number of cases of eye disease either kept up or originated by nasal trouble. The first of these is a pseudo-erysipelas of the lids, which is not an infectious disease, but merely a secondary affection of the blood-vessels, only resembling erysipelas clinically. It is entirely due to irritation and engorgement of the blood-vessels in the front part of the inferior turbinated bone. A second type of nasal affection giving rise to eye trouble is true periodical hay fever, and a non-periodical irritability of

the nose, resembling hay fever. He has published four cases, and has since seen another, of periodic conjunctivitis characterized by the formation of granules and follicles, which trouble always receded in winter, to reappear again in the spring and summer. In two of these cases a diagnosis of hay fever has since been made. He has seen a case which had been treated for trachoma by a number of specialists, where the history of the nose showed that the affection was of nasal origin. The same trouble may exist in a non-periodic form, and present all the symptoms of hay fever, the trouble not being limited to any season, but occurring in any part of the year, lasting a few days or weeks. But these cases are not common. In one of these cases he was able to effect a complete cure by cauterization of the nose. A third type of nasal affection giving rise to ocular symptoms is true catarrh of the upper and front part of the mucous membrane of the nose, where the membrane is distinctly reddened and where there are generally slight and by no means prominent symptoms of catarrh. In these cases he has very frequently found troublesome epiphora without any stricture of the duct; in some cases the test was made by using delicate probes. Such cases are entirely curable by simple treatment of the nose. He has found a not sharply defined case of asthenopia, due not entirely to the nose, but complicated with refractive trouble where nasal treatment was necessary to complete a cure. Once or twice he has seen polypi play the same role, and a number of times found the starting-point of the irritation not in the front of the nose, but in the posterior part, in the form of the common adenoid vegetations.

This is a subject which has not been fully dealt with in literature, but he has several cases where the extirpation of the large post nasal tonsil has given decided relief to the eye. Then he has found that in a few cases ulcers or chronic inflammation of the cornea were kept up by nasal trouble which was probably started in the first place by a copious flow of tears from the eye. He has observed that local treatment by means of calomel, atropia, and the customary applications to the eye, proved inefficient, while the addition of nasal treatment hastened the cure of some of these tedious cases. The nose was probably normal to start with, but the continued flow of tears produced either small erosions or some little catarrhal troubles of the mucous membrane at the front of the nose, subsequently increased to chronic catarrh, leading to congestive obstruction of the tear passages, or exerting an unfavorable nervous influence upon the eye trouble. Finally, as a rare instance, he mentioned one case which is now cured. The patient was sent to him for polypi, which, however, proved to be the minor trouble in the nose, the real trouble being an immense vascular tumor occupying the entire floor of the right side of the nose, covering the inferior turbinated bone and reaching about to the middle turbinated bone. The patient had been reduced in strength, and the slightest exertion on his part produced hæmorrhage, therefore the most careful operative procedure was necessary. He finally succeeded in removing the entire tumor by the galvano-cautery in twenty sittings. As the tumor

began to shrink the hæmorrhage was less, but he lost thirty or forty ounces of blood in six weeks. During the latter part of the treatment his right eye began to bulge, and he complained of double sight. It has remained healthy, but there was an unmistakable development of vascular tissue in the orbit and behind the eye, which receded by the time the tumor had been extirpated from the nose.

DR. BOERNE BETTMAN said that he was very glad to hear Dr. Gradle corroborate his statements. He is well aware that these cases are comparatively rare; although he has recorded in his case book about twenty, seen during the last two years. He is acquainted with the article published by Gruening. His attention was first called to the subject by the work of Hack, and since reading that he has made it a point never to allow an eye patient to leave his office until his nose has received a very thorough examination. He has seen a number of cases such as mentioned by Dr. Gradle, but thought it better to describe to-night only the typical ones. The connection between ocular and nasal troubles is a point all oculists should bear in mind, and when they find no local cause for epiphora they should examine the nose.

DR. A. P. GILMORE said he would like to add one word in regard to glaucoma, and that is, that the importance of tension did not seem to him to have been sufficiently dwelt upon. Any careful general practitioner can ascertain whether the tension is increased or not, simply by comparison with the tension of his own eye. All pain referred to the eyeball, with or without the accompanying neurotic symptoms mentioned in the paper, does not mean glaucoma. Unless there is increased tension you cannot diagnose glaucoma. The author does not mention Badal's operation in the treatment of glaucoma. It is certainly entitled to a place among the operative measures. He would only speak of one point in Doctor Starkey's paper, viz., epiphora. He does not believe, with many, that epiphora is due primarily to a stricture which prevents the escape through the nose of the natural amount of fluid secreted, but is due rather to reflex irritation causing an hypersecretion of tears. In health the eye is moistened with a moderate secretion. When the lachrymal gland is removed the eye continues to be moist and the cornea retains its lustre. Tears are not essential to the lubrication of the eyeball; their function is to protect the eye against foreign bodies. A bit of dust under the lids will cause profuse lachrymation and the tears will flow over the face, not because of an obstruction to the natural amount of fluid secreted through the natural passage, but because of a hypersecretion due to reflex irritation. For treatment he never uses a probe larger than Bowman's No. 6, usually No. 4. He seldom finds it necessary to make Bowman's operation in epiphora. He thinks its use is unnecessarily frequent. He uses astringent and antiseptic solutions with a syringe small enough to be easily introduced into the puncture when slightly dilated. He is very careful to treat any nasal complications; it is impossible to treat diseases of the eye successfully without recognizing and treating reflex irritations of the nose.

DOCTOR STARKEY said that his paper was necessarily cut down very much. As first written he had given some space and attention to cases similar to those mentioned by Dr. Bettman. He had also spoken of the probability that in many cases of epiphora, where there had been inflammation of the tissues lining the lachrymal canals with partial closure, a continual irritation of the canal in some way, perhaps reflexly, so stimulates the lachrymal gland that the tears are poured forth more abundantly. There are well-known cases where the lachrymal canals have been completely closed by injury or operation, and yet lachrymation is not annoying, although the gland has not been extirpated; tending to show, as mentioned by Doctor Gilmore, that the normal secretion of tears is ordinarily very limited. It seems to him that in many instances lachrymation is due to irritation propagated reflexly, and therefore in treating such cases he thought of trying to restore the mucous membrane of the lachrymal canals to the normal condition, as well as to look for and treat points of irritation elsewhere.

PROF. J. E. COLBURN said: In case of injury where there is danger of sympathetic irritation, a foreign body being lodged in the anterior chamber, iris, ciliary body, or the choroid, where the chances are that in order to give all the advantages of treatment the patient must necessarily be idle for a considerable length of time, and where the sight in the injured eye has been irretrievably lost, he thinks it advisable to make the operation of evisceration or abscission as early as possible. The patient, if a laboring man, is then relieved from a long enforced idleness and anxiety, and the danger that lack of care frequently causes in this class of cases. Where the appearance is first to be considered, and the patient can be constantly under observation, the operation can be postponed, but with the strict injunction the patient is to be under constant surveillance. In a large majority of cases where there is great damage done and the foreign body is out of sight, it is safe and advisable to make the operation, trusting to that to save the other eye. In a case that came under his observation recently a piece of steel entered the anterior chamber near the centre of the cornea, passed through the iris and lodged in the sclera. No operation was performed, and the fellow eye became sympathetically affected, and on account of its sympathetic disturbance had to be removed. The steel produced some local irritation, and the eye was caught and rolled strongly toward the nasal canthus, and the piece of steel was found projecting into the orbit from the sclera and was removed. The track of the steel through the sclera was surrounded by a large mass of fatty degeneration, which was also removed. Vision remained about one half.

PROF. W. FRANKLIN COLEMAN said he agreed with Doctor Colburn as to the desirability of timely enucleation in the case of a laboring man to save his time, but should ophthalmitis set in he should not, under any circumstances, enucleate the eye. He believed it is rare for German operators to risk removing an eye in a case of ophthalmitis, but in England they scarcely hesitate to remove an eye under any circumstances. He had never regretted recommending a patient to have an eye enucleated, but he sometimes

regretted that he did not urge the patient to have the eye out in order to avoid the fearful risk of sympathetic inflammation. He is astounded at the position of so eminent an authority as Noyes who says, "I hesitate to enucleate the eye on account of appearance, and do not do so unless symptoms of irritation or inflammation appear which I cannot relieve with medical treatment." In nineteen out of twenty cases the lost eye is not worth saving, but is a blemish, and an artificial eye would be more ornamental. And if a man wishes to get work he will deceive the very elect as to which is the real and which the artificial eye. He cannot see any advantage in not advising enucleation where the eye has been injured to such an extent as to menace the fellow eye.

PROF. GILMORE asked Prof. Holmes why he did not try a magnet.

PROF. HOLMES replied that he had been in so much doubt what to do that he thought best to first try incision and forceps. He did not believe the best magnet could have liberated the end of the steel, buried in the tissues of Fontana's space. It is remarkable that so long a piece of metal could have been thrown through the cornea, making so minute an opening, and lodged in the anterior chamber, as described, without injury to the iris or lens.

PROF. COLEMAN said to his mind the magnet in the eye is a delusion and a snare. For instance, if you introduce a magnet within the eye not knowing where the foreign body is before placing the point of your magnet, you have to search the whole cavity of the eyeball and reduce it to a jelly before you can extract the body. Granted no great harm is done if you do not extract it with the magnet, for you can afterwards enucleate the eye. But so far as he has tried it, and has seen others experiment with the magnet, it does not give satisfaction.

PROF. HOLMES replied: That is very true in many cases where the steel cannot be seen with the ophthalmoscope, but he thinks where a view of the foreign body can be obtained early, the magnet may be employed with brilliant results. There are now so many cases reported with excellent results after extraction with the magnet, that he cannot think it a delusion and a snare by any means.

PROF. COLBURN said he recently saw an interesting case in which the foreign body was lodged about half way between the ciliary body and the entrance to the optic nerve. The operator cut through the sclera about where he thought it was lodged, passed the magnet in and brought out the foreign body apparently without wounding the retina at the point of attachment. The patient made a good recovery.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, February 7, 1887.—THE PRESIDENT, EDMUND J. DOERING, M.D., in the chair.

PROFESSOR W. E. QUINE, Chairman of the Committee appointed to convey to N. S. Davis, M.D., L.L.D., a formal expression of the Society's

estimate of his labors and character, prefaced the presentation of the report by a few well chosen words of congratulation to Prof. Davis on his arrival at the fiftieth anniversary of the date on which he received his diploma to practice medicine. The report of the committee, which had been engrossed on parchment, was then read and presented to Doctor Davis, who responded in a feeling manner. The resolutions were as follows :

"*Resolved*—1. That N. S. Davis, M.D., LL.D., ex-President and only surviving charter member of this organization ; ex-President of the Illinois State Medical Society ; twice President of the American Medical Association ; President of the Ninth International Medical Congress ; Dean of the Faculty of the Chicago Medical College, etc., etc., is the acknowledged founder of the American Medical Association, and practically the founder of all medical organizations on this continent. His labors in this direction have been of incalculable benefit to his profession and the community at large.

"2. That he has been one of the most earnest and influential workers of his time in the direction of improving the methods, increasing the thoroughness, and enlarging the scope of instruction in the medical colleges of this country, and has thus contributed vastly to the elevation of the average scholarship of his profession.

"3. That he has been one of the most devoted and eminent of the medical teachers this country has produced ; one of the most industrious and powerful of the medical writers and orators ; one of the most active and conscientious of the original investigators ; and one of the most acute and philanthropic of the medical practitioners. He has received and merited the highest honors which the medical profession had the power to confer, and he has been outranked by no man in point of popular confidence and esteem.

"4. That as a man he has made an inspiring record—a record of purity and dignity of character ; of unyielding devotion to principle ; of tireless zeal for the suppression of intemperance, and of such charity as made him pre-eminently the physician and benefactor of the poor, and led him habitually to subordinate opportunities for personal gain to impulses in the direction of making his fellow creatures happier and more useful. A born teacher of teachers ! leader of leaders ! exemplar of christian philanthropists ! the Chicago Medical Society hails thee as the most illustrious of its members, and salutes thee as an honor to the profession and a blessing to thy race."

Signed by President E. J. Doering ; Liston H. Montgomery, Secretary, and Dr. J. J. Angear, William E. Quine and James H. Ethridge, Committee.

PROFESSOR J. A. ROBISON read a paper on

THE CLIMATIC TREATMENT OF DISEASE,

which was discussed at the meeting of the society on February 21st.

He said there is probably no field in therapeutics in which the general practitioner becomes so quickly lost as that of the climatic treatment of disease. He seldom has the time or opportunities to investigate the subject personally, and what little knowledge of the subject he possesses has been gleaned from the voluminous literature written by various authors on this topic. Even this knowledge is ill-defined. There is a great difference of opinion among writers on climatology as to what should be the altitude, temperature, dryness or moisture, etc., for the treatment of various pulmonary diseases. The purpose of this and following papers will be to formulate the desiderata for climates in the treatment of various pulmonary diseases.

Inasmuch as phthisis pulmonalis constitutes the largest class of these diseases, he noted what some eminent authorities say are the requisites in the climatic treatment of this disease.

From the opinions of these authorities we can tabulate certain facts :

1. The climate must be such as to insure *pure air free from dust, or poisonous germs.*
2. Such air is more apt to be found at an elevation of 1,000 feet, or more, above the sea level.
3. There should be an equable temperature, neither too warm nor too cold; the air should be in continuous motion and yet there should be no wind storms.
4. There should be plenty of sunshine.
5. The landscape should be pleasing.
6. The health resort should be easily accessible and home comforts with congenial society easily obtained.
7. The patient should be able to take almost daily outdoor exercise without fatigue.

When patients are able to find homes in climates which nearly fulfill all these conditions, clinical observations demonstrate that consumption may not only often be arrested but cured. It is a well-known fact in mycology that a modification of the environment often prevents bacteria from thriving and multiplying, and this may account for the improvement which often follows the residence of a consumptive in a pure climate where he can take exercise. Bodily nutrition is increased, the power of resistance to disease is augmented, and the germs of consumption die. The disappearance of the disease is heralded by the improvement of the appetite and the digestion, the increase in force of the circulation, the stimulation of the respiratory functions with increase of normal oxidation and bodily heat. Thus with the improvement of the general bodily nutrition is favored that condition of the lung where there is absorption of the inflammatory exudates present in incipient phthisis, or the formation of cicatrized tissue in the latter stages of the disease.

Having thus considered the climate conditions favorable for the treatment of consumption, he noted the claims which certain localities in the United States present as being suitable places to which to send consumptive patients, including Asheville, N. C., Marietta, Ga., and Lookout Mountain, Tennessee.

PROFESSOR F. E. WAXHAM exhibited

MODIFIED INTUBATION INSTRUMENTS.

DR. WAXHAM said: About thirty years ago a new operation was proposed as a substitute for tracheotomy, by M. Bouchut, of France, and so great was the opposition to this new operation, which was styled tubage of the larynx, that a committee headed by Trousseau, appointed by the Academy of Medicine, reported adversely in regard to it, and the operation was so deeply buried in oblivion, that early operators in this country were not even aware of the attempts and failure of Bouchut.

The most earnest advocates of intubation do not consider that the instruments are perfect; indeed the operation is yet in its early infancy, and it may be years before the method is fully and perfectly developed. One of the chief objections to the operation, indeed the only valid objection, is the difficulty of swallowing, the danger caused by the falling of food and fluid into the bronchial tubes through the canula, and the too frequent occurrence of broncho-pneumonia. He would not exaggerate this danger, but certainly it is true that many patients die of broncho-pneumonia from this source. To overcome this difficulty he had had Messrs. Charles Truax & Co., of this city, modify the O'Dwyer tubes, by making them with smaller heads.



Cut No. 1—O'Dwyer Tube.



Cut No. 2—Waxham's Modified Tube.

The tube is prevented from slipping into the trachea, by a rubber collar. (Cut No. 3.) To this rubber collar is attached a flap, or artificial



Cut No. 3.

epiglottis. (Cut No. 4). During the act of deglutition the larynx rises



Cut No. 4.

and presses against the base of the tongue and the epiglottis, and the pressure of the epiglottis holds the rubber cap, or artificial epiglottis, over the aperture of the tube, thus preventing the dropping of solids into it, and as deglutition ceases, the larynx falls and the elasticity of the rubber throws it upwards. This rubber attachment does not entirely prevent the falling of liquids, of water particularly, into the tube, but it is of very great assistance in swallowing solids and semi-solids. He has used this modification in a number of cases with good results, and he had, at that time, a little patient convalescing from a desperate attack of diphtheritic croup, in which this modification was used.

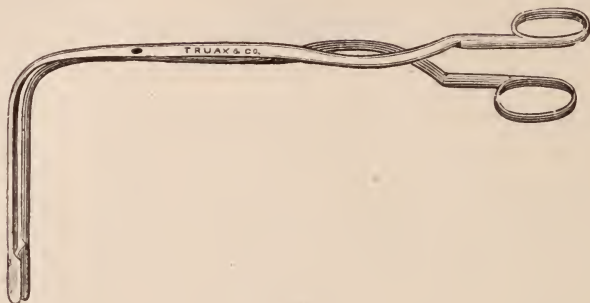
He also presented a modification of the mouth-gag. (Cut No. 5.) In



Cut No. 5.

the old gag the extremities are liable to strike the shoulder, especially if the child is not held well and is allowed to slip down in the lap of the attendant, the extremity of the gag striking the shoulder and throwing it out of the mouth. The modified gag passes back of the head, and we avoid the danger of the gag being displaced by pressure of the shoulder. This gag was first suggested by Dr. McWilliams, of this city, and has been in the market for several months. There is still another danger that may follow the introduction of the tube, and that is the detachment of membrane below the tube, or the pushing of membrane down ahead of the tube when it is introduced. An accident of this nature had occurred to him recently: a tube was passed down into the larynx and the respiration at once ceased, the child turned blue and seemed upon the point of death. The tube was at once removed, but the respiration was only slightly improved and the tube was again introduced, with the same result. It was again removed and the trachea forceps (cut No. 6) that he had devised for this purpose, was introduced into the mouth, and a mass of membrane, a perfect cast of the trachea and the two larger bronchial tubes, removed. After the removal of this cast the tube was again introduced, and respira-

tion was easy. Without these forceps an immediate tracheotomy would have been necessary.



Cut No. 6.

He then presented to the Society a membranous cast from the trachea, larynx and bronchial tubes of the late Dr. Newton; the specimen being remarkable not only for its thickness and its extent, but for the rapidity of its growth; it was produced within three or four days after the invasion of the larynx. The fate of Dr. Newton, whose early death all regret most sincerely, teaches a sad lesson: it teaches the danger that besets the faithful physician, and the necessity of taking every possible precaution against the contraction of this hydra-headed monster, this justly dreaded disease diphtheria.

To those practicing intubation he advised that an ordinary rubber cot with the end cut off should be slipped over the forefinger, and then during the operation, if the gag is displaced, the finger is protected; as an additional protection, it will be well for the operator to use a respirator, (cut No. 7) an ordinary pad of antiseptic gauze with tape attached to



Cut No. 7.

secure it in place. This pad should be passed over the mouth and nostrils, and should be used by the physician when inspecting the throat or when operating upon a bad diphtheritic case. He regards it as a duty that every physician owes to himself, his family and friends, to take these precautions, especially in the treatment of bad diphtheritic cases.

PROFESSOR JOHN BARTLETT said: Doctor Waxham has given us the position of the O'Dwyer tube when *in situ*, indicating that the beveled facet on its upper extremity should present upwards and forwards. By several practitioners in this city the tube has been introduced contrariwise; that is with the bevel of the flange looking upwards and forwards. This position

of the tube, it is maintained by those who prefer it, has an advantage, namely, that when it is so placed, the patient's ability to swallow is appreciably greater than when it is inserted as intended by Doctor O'Dwyer. The anatomist, Professor Hoadley, prefers this reversed position. He has now introduced the tube in this manner in eight cases, and in seven of these the patients, directly after the operation, could swallow fluids without the least difficulty. Doctor Hoadley maintains that the flange of the tube as placed by him deeply within the vestibule of the larynx, in no wise interferes with the functions of the epiglottis, or the aryepiglottic folds. Confusion in regard to the proper position of the tube, has arisen here from earlier cuts of the instruments accompanying some of the cases; these erroneously represented the tube placed with its longer margin forward. He desired to say a few words in regard to feeding these patients. There are reasons for believing, that, by the use of a French conde catheter of proper size and introduced some distance into the gullet through the nasal cavity, thorough alimentation could be secured without distressing the child, or, a suitable stomach tube might be introduced through a stomach-tube director without greatly distressing the patient. Stress might be properly laid upon the fact that pultaceous food, as bread soaked in milk, is swallowed more readily than water, or fluid nutriment.

PROFESSOR CHARLES WARRINGTON EARLE said, he thought Doctor Waxham, who is certainly the most successful in this operation, should warn the general practitioner who has had little experience against trying this operation without some one standing at his elbow to show him just how to perform it. There are few who do it well, and he knew of excellent surgeons in this city who may be trusted in everything else, but who have tried to do this operation and signally failed. And, although Doctor Waxham talks as if it is very easy, no person should try the operation for the first time without having some one by him who is particularly skilled. He remembered very well trying to perform the operation when Professor Waxham was present. He tried to introduce the tube but could not, and Doctor Waxham took the instrument and did it in two seconds. He thought one should not try to make it appear so easy.

PROFESSOR WAXHAM, in closing the discussion, said: He would say a few words in regard to feeding patients. One of the secrets of success is proper feeding, and the attending physician should superintend the feeding of the child. He may tell the people to feed it *bread* and milk, or semi-solids, and if he investigates the matter he will find they are giving it half a teaspoon of milk with a little bread, and the milk trickles into the trachea and the bread is rejected. If they are told to make a custard they make it so soft and fluid that it will *trickle* into the trachea. It is very important that the physician should superintend the feeding, personally. It is well not to give the child liquids; a small piece of ice placed in a piece of cloth held in the mouth will quench the thirst, and it should not be allowed to swallow for several hours, when it will swallow very much better than if the feeding is attempted at once. He had always made it a

practice to introduce the tube with the beveled portion directed forwards and the projecting shoulder backwards, and regarded that as being one reason of his success. It seems a reasonable method of placing the tube because, if the higher portion is directed backwards the epiglottis can more perfectly close over the aperture of the tube than if the high portion is introduced forwards. Little or no difficulty is ordinarily experienced by the expert in removing the tube. It has been removed over and over again in two seconds; and yet, occasionally, if the tube becomes turned in the larynx, or if from the small size of the tube it sinks to the bottom of the larynx, it becomes difficult even for the expert to extract the tube, and in such a case after two or three careful attempts, we should give the child an anæsthetic so as to have it entirely quiet while the extractor is passed into the tube. In extracting the tube it is best to place the finger over the base of the tongue, when the child will gag and the tube will rise to the finger and it can be caught with the extractor.

ANNUAL REPORT OF THE MUSEUM OF HYGIENE.

ANNUAL REPORT OF THE MUSEUM OF HYGIENE OF THE UNITED STATES NAVY. *By* THOMAS J. TURNER, *A.M., M.D., Ph.D., Medical Director, U. S. N., in charge.*

In presenting this report upon the Museum of Hygiene, it is to be stated that the remarks of my predecessor, Medical Director John M. Browne, U. S. N., as to the necessities of the museum, apply with increased force.

Since the last report the collection of sanitary and hygienic appliances has been increased by donation and purchase until there is now insufficient room for the proper presentation of the general exhibit, either for purposes of study or inspection. The like remarks apply to the library. The shelving is now full, and the constant addition of books, pamphlets, circulars, etc., upon hygiene, both general and special, has rendered it necessary to store these accessions upon the floor space. The library, from this fact alone, is becoming valueless for reference and study, and its usefulness is consequently impaired. The catalogue, still incomplete, now numbers over fourteen thousand titles. The great number of valuable publications, and more especially the recent literature of subjects pertaining to hygiene, are not available for study or reference because unbound. The necessity for an appropriation for binding needs no other demonstration. These facts are to be taken into consideration in connection with the circumstance that there has not been a day without some call for information

either from plumbers, architects, medical men, or others interested in the means of preventing dangers to health.

The necessity for a building for the objects of the museum is apparent to any observer, and it is respectfully urged that the attention of Congress be called to this condition of affairs. Other countries have established institutions of like character, and the progress of sanitation in the United States, as presented in this museum, is creditable alike to the originality of the presented inventions and the object sought to be obtained. Over thirty cases of models representing the baths at Bath, England, which formed a prominent exhibit at the late International Sanitary Exhibition, are now stored in the cellar. These models have been presented to the museum.

The apparatus of Galton for anthropometry is stored, and cannot be used for want of room. The attic is also crowded with unbroken packages. It is the opinion of those well informed upon such matters, after an examination of the present display, that it is overcrowded, and that twice the present area is necessary for proper presentation of the appliances, models, etc. There is need for a permanent clerk for the museum. The clerical duties in cataloguing, indexing, labeling, etc., utilizes most of the time of the medical officers attached to the museum, and there is but little time left for the pursuit of scientific study.

The changing of medical officers causes irregularity, and both system and method are subjected to too great variations by such changes. The officer leaving does not, nor cannot, leave his acquired knowledge to his successor, and a new arrival has of necessity the accumulated "dead work" to embarrass and obstruct his usefulness, and he, too, just as becoming efficient, is detached and ordered to his more legitimate duty at sea, and so on again and again. The advantages

of the museum to original investigators and their investigations into matters connected with public health and the progress of preventive medicine are at present at their minimum for want of working room. It is respectfully suggested that the number of officers on duty at the museum be increased, preference being given to those officers who have displayed interest in and are ready to work upon matters so important to the state as public health. The tools are here, but the workmen are not now on hand.

In the physical department attempts have been made to define a standard by which to measure the relative viscosity of oils for lubricating purposes at determined temperatures, and also in colormetry as giving data for accurate measurements by instruments of precision.

The biological department has not been laid under service, but it is proposed to enter upon examinations in this direction, especially into the products made by the bacilli—the ptomaines and leucomaines. It is considered by the writer that these substances all belong to the ammonium series and are the exponents of the inverse metabolism of the amines, all tending to the ultimate isolation of nitrogen from animal organic compounds. It is also considered that the alkaloids existing in the vegetable kingdom may be found to be the result of cell action in such vegetable structures, closely allied to the action of the bacilli in animal matters. Should these projections become demonstrated facts their value, both in curative as well as in preventive medicine, can readily be made plain. The toxic phenomena produced by these substances, both from the vegetable and animal kingdoms, appear to be alike when introduced into the system, and the same phenomena occur and appear in cases of uræmic intoxication from the retention of urea—a typical example of this class of bodies

—as well as in typhus-fever where the glass rod moistened by HC_1 and held in the expired air gives the reaction of the gaseous amines. It may be that the odors that characterize some diseases have a like origin.*

The comparison of the poisonous effects of the vegetable alkaloids with the results of toxic effects of the various ptomaines and leucomaines, when introduced into the system, exhibit the fact that they are generically alike—nerve sedatives—narcosis marking one species, cardiac depression another, the functions of the spinal cord being affected in a third, and so on. The alkaline condition of the discharges in cholera, and their innocuousness when rendered acid, the acid treatment in typhoid-fever and the use of disinfectants in destroying the germ and its products, are all connected with this subject. The production of these alkaloidal bodies in the living body in health, as well as in disease, is now well determined.† Their elimination in normal physiological conditions; their retention as perverting these conditions; their causative agency in the production of disease in the body in which they are formed and in the bodies of others subjected to their action, are now the subjects of extended and careful research. The influence the results of such studies must have on the future of both sanitation and therapeutic medicine for good cannot be now calculated. The further metamorphosis of these amine com-

* As this class of bodies is likely to be increased by future research, the name for the whole genera, it is hazarded, should be micro-bamines, as expressing alike origin and composition.

† It may here be mentioned that the presence of these substances in animal products, used as foods, presents a further field of investigation to the biological chemist. The discovery of a poisonous alkaloidal body in cheese and in milk, after being kept for some time, by Professor V. C. Vaughan, are but the initiative steps in this research. There will occur other instances to the sanitarian, having perhaps a like solution, as causing disease-movement and suggesting preventive measures.

pounds, manufactured by the microbes, by the action of the oxygen in the air, resulting, when in the presence of alkalies, in the production of the nitrates and nitrites of the bases and water, has received an industrial application in the manufacture of potassium nitrate for technical uses, more especially in the preparation of gunpowder. Whether it would be remunerative enough to so utilize sewage by this process of nitrification is yet to be determined. The like utilization of the refuse from abattoirs, furnishing the animal nitrogenous matter with potassium carbonate, is suggested for experimentation by the chemist as being a source of supply of potassium nitrate in time of war, should other sources fail in such emergency. The microbe can be furnished by the biologist, and the "environment" necessary, such as temperature, moisture, air, and other attendant phenomena, can readily be determined by experimental investigation with scientific accuracy. In one special direction in naval hygiene is attention called to these bodies. These alkaloids all appear as the results of retrogressive metamorphosis; as the production of organized matter, which in a broadly comprehensive way we call here bacteria, and in solutions undergoing the so-called putrefactive changes. Bilge water is a putrefactive solution. A spirochæte has been found in it, and in former publications of the writer bilge water was suspected, on grounds which are now evident, to be a source of febrile movement on ship-board. Cleanliness of the bilges must be insisted upon hereafter.

It is also proposed to investigate the slow chemistry of concentrated and preserved foods in order to determine the time when their nutritive value begins to decidedly decrease and when it ceases.

CREMATION.

From the increasing literature upon this subject is inferred a growing interest in the community upon this mode of the disposal of the dead. This object, of so much sanitary importance, might soon be obtained were it not hampered by so much of the emotional element that appears inseparable from its consideration, as well as certain medico-legal restrictions which can be readily removed. It must be evident to the enlightened sense of the community that such mode of burial is demanded in such diseases as small-pox, scarlet-fever, diphtheria, and the like. There are but few models of apparatus for cremation on exhibit in the museum. There has been invented a portable crematory for use in rural districts, as well as in time of war.

MINING.

The successful adaptation of the electric light for mines and mining operations is now assured. Some experiments are on record in which it is attempted to discover how far the influence of tinted glass coverings to this light may be used in determining the presence of fire-damp, light carburetted hydrogen, the methane of the modern chemist. If these experiments are successful there will be an advance in the better hygiene of mines. The miner's old oil lamp, rendering the air impure by its products of combustion and its vile-smelling acroleine odors; the Davy lamp, with its dim, lurid light, and the carelessness with which it is handled, will be things of the past, and thus the dangers to health, as well as to life and limb, in mines be removed.

SCHOOL HYGIENE.

Without entering upon an extended notice of this section of sanitary science, leaving out for the present the considera-

tion of the school-house, a note here appears necessary concerning the hygiene of the eyes of school children. Some German sanitary observers in this direction have condemned the dark slates now in use on physiological grounds, and on the same grounds have suggested the use of white slates with dark pencils. Taking these premises, with the results of some personal experience and observation in determining ranges of vision, as well as of the color-sense, the writer is led to suggest that a uniform "face" of type, as **antique**, be adopted for school books, and that the traditional black printing ink be abandoned for inks of neutral tints in printing such books.

This accepts a proviso that the paper remains as now—white and unglazed. How far sharpness of definition of letters can be secured by such color use the printer can determine. Further observations may support the correctness of these suggestions; that there is a strain upon the nervous apparatus of vision in the reading of books as printed at present (black on white) is an accepted fact; that this strain is a cause of asthenopia is also well made out, and that the apparatus of accommodation in the eye is affected follows as a consequence. This strain, expressed in ordinary language as "tired eyes," is relieved by letters printed on tinted paper and by colored printing inks on white or colored paper; and thus a circus poster, from these facts, oftentimes contains more refreshing reading, in a hygienic as well as a mental sense, than some newspapers or books. It needs but the simple statement, in this consideration, that glaring colors are always to be avoided.

THE SIPHONAGE OF TRAPS.

The experiments, with the apparatus necessary for the purpose, upon the siphonage of traps which have been carried on at the Museum by Glenn Brown, A.A.I.A., have

now been completed. The results of this investigation are forwarded with this report. It is an addition to the literature of this matter, and is to be placed alongside of the notes of Folsom, E. W. Bowditch, Waring, Philbrick, and others.

PREVENTION OF MALARIA.

To the list of plants proposed for use to modify or arrest the production of malaria, as in the eucalyptus and helianthus, there must now be added a water plant, the anacharis alsinastrium—the choke-pond weed natural order, hydrocharidaceæ. Its rapid growth and spread in marshes and rivers where it has been planted, and the cessation and disappearance of malarial and diarrhœal diseases formerly affecting villages and towns about such localities, have been grouped into a relationship. It is now suggested to cultivate this aquatic plant in marshy districts with a view to prevent the production of malaria. Further experiment is necessary to determine the value of this plant in this direction, but there seems to be enough evidence of such value to warrant this note.

More especially interested in naval hygiene, it is with some gratification that attention is called to its progress as exhibited in the museum and library.

AIR AND VENTILATION.

The model of the fish commission steamer Albatross, with the mode of ventilating that vessel, designed by Passed Assistant Engineer George W. Baird, U. S. N., is worthy the attention of the naval constructor. The improvements in ventilating shafts, with cowls for the ventilation of the berth decks of passenger vessels, show that the necessity for fresh air has at last become apparent to large steamship companies.

WATER.

The storage of water in iron tanks seems to leave nothing more to be desired in that direction, but the constant rusting and the chalybeate taste of the water has been considered objectionable. Filtration does not remove this taste. Some years ago it was recommended that the interior of the tanks should be prepared by the Barff process to prevent rust. It may not be out of place here to suggest that this process might be usefully applied to chains, anchors, and shot.

The aëration of water has been the cause of many patent appliances. Baird's aëerator answers all purposes, and as it is attached to the distiller, the distillation, cooling, and aëration of water are completed by one process. The like is the result of the Normandy apparatus. The results of the observations of our medical officers upon water supply, as published in the reports of the surgeon-general of the navy, lead to the knowledge that there are few ports visited by our vessels of war at which the supply of potable water can be accepted for use on board ship with the confidence that no harm may result. Distilled water should be used at all times. On blockading duty no other water can be had save from an occasional rainfall, and it is no new thing to a naval sanitarian to state that such water is impure. It is again recommended that the interior of water-tanks be treated by the process mentioned to protect from rust. Of the hygienic use of distilled water it is to be noted that the absolute immunity of the squadron on the Asiatic station, in the years 1877-79, during the prevalence of epidemic cholera, and the decrease of all diseases of the bowels attended with flux, is ascribed to the use of distilled water on board of the vessels on that station.

The pollution of the sources of water for the supply of cities by sewage, garbage, etc., is constantly being referred to by sanitarians as a steady and increasing danger to health. To remove these dangers will demand more attention in the near future than is now given them. The destruction of garbage should be by fire, and in the cities a public crematory for such purposes is now a necessity. In the utilization of sewage there appears to be at present no profitable mode for such purpose. As a fertilizer its use appears to be best subserved by the process of intermittent, downward filtration in soils adapted to such usage. It may be that, failing to secure a degree of freedom from contamination that renders water "potable," the distillation and aëration of such non-usable waters by some mechanical device adapted to the culinary apparatus will be part of the future house sanitation. As to the disposal of fecal matter, we should profit by the observations and experiences of Oriental nations, and return it to the soil in such manner as to avoid contaminating water supplies.

FOOD.

The attached table from the bureau of provisions and clothing presents the United States naval ration as allowed by law, and the practical substitutes permitted. Without entering upon the detail of the value of each article as to its tissue-forming or heat-making value, it is believed to be an excellent ration. It is suggested that an extract of meat be added, to be used in connection with other animal foods after prolonged and exhaustive exertions of no matter what kind, as well as a part of the ration when salt meats are used. It is known that the addition of a meat-extract promotes the digestibility of salt food. In addition, the use of

lactic acid is recommended as part of the ration. It is a natural constituent of the meat juices; is, perhaps, destroyed by cooking and diminished by salt-packing; is preferable to vinegar; has about the same commercial value, and it is proposed in this manner to restore it to the food. A re-arrangement of the meal hours on board ship is suggested. The extremes to be avoided are, first, an excess of food in a given time, as meals too frequently repeated in such time, and, second, the interval between the meals be not too long. The total amount of food taken in the twenty-four hours should be distributed in accordance with physiological laws.

In the direction of the preservation as well as conservation of articles or products used as foods there does not appear to have been any unusual activity. In general terms it may be stated that the tendency in this direction has been directed by the studies on antiseptics, and the most prominent of these articles, boric and salicylic acids, with other known articles, enter into the composition of the preservative means suggested. They are of very questionable utility in the preparation of foods for diets, no matter how valuable their antiseptic properties.

* * * * *

LIGHTING.

The use of the electric light on shipboard has proved of service. The vitiation of the air from the combustion of oil and candles is ended. Recurring to the oft-repeated fact of the etiolation of plants from the absence of light and the blanched appearance of miners and others whose avocations are in "darkness," will be of value to the observant medical officer to notice what effect the present system of lighting

has upon the hæmatosis which furnishes the "ruddy cheek of health."

TRANSPORTATION OF THE SICK AND WOUNDED ON SHIP-BOARD.

The cot for transporting sick or wounded, designed by Medical Director A. L. Gihon, U. S. N., has so long been known and is so efficient that it requires no comment. The ambulance cot of Medical Director A. C. Gorgas, U. S. N., is also well known, as well as that of Medical Inspector H. M. Wells, U. S. N. A knit hammock, for a like purpose, is on exhibit in the Museum, designed by Thomas Graham, pensioner, U. S. N.

COOKING.

A model of the improved ship's galley, designed by William Young and in use in the service, is also on exhibit. It seems that a man-of-war's galley can only be understood by a man-of-war's man, for in all the contrivances adapted to utilize cooking space, galleys invented by sailor-men economize the space assigned to its limit. This galley, as far is known, has few defects.

DISINFECTION AND DISINFECTANTS.

Models of stoves for the purpose of disinfecting bedding, etc., at high temperatures are on exhibit in the Museum. There does not appear to have been much progress since the issue of Sternberg's essay on disinfection, by the American Public Health Association, in the scientific determination of the value of disinfectants. The journals on file contain notices of the application of numerous derivatives from the wood and coal tar products, asserted to be efficacious both as disinfectants and deodorizers. Judgment as to their real value must be suspended until further experimental research shall have placed them where they properly belong. The

steam-atomizer invented some years ago by Medical Inspector H. M. Wells, U. S. N., and originally adapted for the use of carbolic acid solutions in the disinfection of vessels, is now made of materials not acted upon chemically, and could be utilized for the mercuric bichloride solutions now used for such purposes.

In the U. S. S. Dolphin 68 cubic feet per man is the berthing-space on the berth-deck. It is too small from physiological considerations; is below that given to an emigrant in the short passage across the ocean (72 cubic feet). The known ill effects of re-breathed air; of the depressed vital conditions induced by impure air from overcrowding, added to constantly wet decks; the diminution of the resisting power to disease movement; the epinose condition—in fact all these enter in the future into the etiology of disease on shipboard. This small cubic space has now become a potential factor in determining “origin in line of duty.” Late published papers upon the future naval organization are marked with the idea of making the modern vessel of war do duty both as a fighting ship and as a transport, and by such means not to diminish the crew. Whatever is done in the direction of the double duty of fighting vessel and transport, it should be remembered, is done at the expense of health, and in just that diminution is the efficiency impaired. The solution of the question will come in time.

In all these considerations the fact must not be lost sight of that “the trade is War.”

LIFE-SAVING APPARATUS.

There are numerous appliances for such purposes—rafts, jackets, and mattresses—and all could be utilized in case of necessity. The Museum has many such contrivances, all of which present some advantages.

HAMMOCKS.

There appears to have been no change in the hammock. It is to be hoped that some inventive genius may construct one that will do away with the bad position that the body has to assume while sleeping in one. More especially should such a hammock be used in the training-vessels, where the growing apprentices may be at least freed from any tendency to spinal deformities which the position during sleep in a hammock inevitably tends to produce. It is suggested in this connection that the crew be divided into three watches, for the purpose of securing the proper amount of sleep and rest. The suggestion is not new, and the present appears to be a favorable time to advance in this right direction; all experience goes for nothing if it is to be only accumulated and not used.

FIREMEN AND COAL-HEAVERS.

Following closely upon the division of the crew into three watches for rest and sleep comes the consideration of the hygiene of the engineer's division. The new fire-rooms are to be under an increased air-pressure when the vessel is under steam. This factor of increased air-pressure is to be added to the effects of high temperature, and the results of this sum upon the health is looked for with interest. Forecasting from the known results of each factor separately upon the health of workmen, it is conjectured that, plus the exhaustion induced by the heat, there will be in some degree phenomena that occur in the "caisson" disease, and that the brunt of these influences will be evidenced by some impairment of the functions of the spinal cord. This exposure must of necessity occur, and to limit such it is suggested to divide this department into four watches, when upon duty, as affording the necessary time for a re-approach to a recovery of a normal condition.

THE MEDICAL OFFICER ON SHIPBOARD.

It does not need any demonstration that with the increase of the efficiency of men-of-war as fighting machines, or the tactical management of troops on shore, the duties of the medical officer have vastly increased, and are out of proportion to his present position. In addition to his duties in the care of the sick and wounded, the prevention of the causes of disease in the men and the means for the preservation of their health demands an amount of practical knowledge and vigilance that belongs alone to his profession. With the political aspects of war he has nothing to do, as such; all his efforts are to conserve the health of the men, so that their strength and endurance, when the moment for fighting has come, are at their maximum and kept so. The action over, his duties are obvious, and need not be narrated. To those who have had the experience description is out of place, and to those who have not, no description can adequately detail that duty. And even in the groaning wards of his perhaps improvised hospital, his sanitary vigilance and knowledge is not to be hampered, for he recognizes, in even this assemblage of sick and wounded, enemies to the health of those around. From my own experience I have stated that the medical officer of a vessel of war should be, by law, her sanitary officer, and recent events in the ocean steamship service lead me to believe that in this respect the mercantile marine will be far in advance of the naval service. What rewards, what definite position the naval surgeon is to have in the future naval hierarchy, is at present conjectural, and will remain so until settled in some manner alike creditable to all concerned, which will only be when calm, impersonal and unselfish logical deductions are received and accepted.

HYGIENIC AND SANITARY EMERGENCIES.

Mention is made of these subjects simply to recall to the medical officer that he may be called upon to improvise means of transportation, for the shelter of sick and wounded, for hospital purposes, etc. In these matters

“The readiness is all.”

The length of time that I have been upon the present duty does not permit me to give in further detail the recent progress in sanitation. Other duties, however, have not prevented the writer from noting the currents in the direction favorable to public health. A cursory survey of the stream may not prove unacceptable.

The reports of the various State Boards of Health mark the increasing interest and vigilance of physicians as guardians of public health. In each report the sanitary wants of the State obtrudes itself at once. The prominent industries in each locality finds some sanitarian making his observations for the commonweal upon its hygiene; here another keeps track of the hygiene of schools; another watches over the sanitation of the charities; there is in our country hardly an industry or charity, hospital or asylum, reformatory or prison, market or farm, house or village, or city that has not some earnest worker in preventive medicine. Not only is the physician engaged; the artisan at work upon “the preservation and conservation of foods” calls in scientific knowledge to his aid. Adulterations, as affecting public health have already secured national legislation; even the use of stimulants and narcotics has given rise to a political element in public affairs in so far as they affect the general health. Railroad traveling, on some of the prominent roads, has its ambulance system, and the traveler by sea is being cared for as regards his health and safety. The architect and engineer design and construct

the works whose necessity the sanitarian has demonstrated, for drainage, the removal of excreta, the sewage, and for water-supply. The disposal of sewage and excreta is becoming daily of more concern to the agriculturist, engineer and sanitarian.

The experiments upon the deportment of soils toward human excreta in various stages of change that have been inaugurated in Japan are of extreme interest to the farmer and sanitarian, as exhibiting the disinfecting power of various soils—that is to say, in the destruction of minute organisms by the agency of earth, and also to the engineer as to the means of transportation to localities the excreta where such fertilizer is needed. The results of these investigations, as far as can be ascertained, are akin to those found by Professor R. Pumpelly for the National Board of Health, and which are to be found in the report of that body for the year 1861.

In industrial hygiene the effects of the inhalation of the dust from the manufacture of slates and slate pencils for schools has called for well-known devices to get rid of the dust in the breathing air. The lung affections caused by the inhalation of this dust need not be erected into a new disease, to be called slatemaker's asthma, bronchitis, or phthisis, for the phenomena are the same as those produced by the mechanical irritation of any finely divided particles of matter so inhaled.

The carriage of disease-germs by ships' crews and cargoes, and the prevention of the introduction of contagious and infectious diseases by all the means and applications which should be grouped in the modern and scientific use of the term "maritime sanitation," have not escaped observation.

The pending national legislation to regulate inter-state commerce has a sanitary aspect that may in future prove of

importance when there comes to the country the much desired national laws regulating "quarantine." Elsewhere I have cited the opinions of such jurists as Justices Marshall, Story and Grier, that "quarantine laws, health laws, etc., are regulations of commerce." How far the proposed inter-state commerce bill may make a classification of *goods* coming from infected places, or as to the *modes of conveyance*—i.e., railroad cars, canal boats, steamboats, etc., becoming carriers of disease-germs of themselves—or of infected goods, or in what manner this proposed *inter* (between and among) state laws may come in contact with *intra*- (within) state regulations of commerce, quarantine law, or health ordinances is unknown. As to *persons*, however, they are not the objects of commerce, and do not fall within the reasoning founded upon the construction of the power given by Congress, by the Constitution, to regulate commerce (*City of New York v. Miln*, 11 Peters, 102). What commercial regulations are to apply to a person suffering from a contagious or infectious disease in transit anywhere in the United States, among the States, cannot now be definitely formulated; within a State, that State's quarantine, health, and police laws now govern.

My own views upon this subject are of record, and the principles advanced have not changed even in the light of the recent International Conferences, but have been more decidedly fixed.

In the adaptation of the principles is the labor and toil.

MATTERS OF INTEREST.

AMERICAN MEDICAL ASSOCIATION.—*Organized in 1846.*

The next annual meeting will be held June 7th, 8th, 9th and 10th, 1887, in Chicago, Ill. Following are the officers:

President, E. H. Gregory, M.D., St. Louis, Mo.

Permanent Secretary, W. B. Atkinson, M.D., Philadelphia, Penn.

Assistant Secretary, J. Nevins Hyde, M.D., Chicago, Ill.

Treasurer, Richard J. Dunglison, M.D., Philadelphia, Penn.

Librarian, C. H. A. Kleinschmidt, M.D., Washington, D. C.

Chairman of Committee of Arrangements, Charles Gilman Smith, M.D., Chicago, Ill.

NINTH INTERNATIONAL MEDICAL CONGRESS — TRANS-ATLANTIC RATES.

The Chairman of the Committee of Arrangements at Washington reports that reliable arrangements have been made by which members wishing to attend the International Medical Congress in Washington, September 5, 1887, can be accommodated by the following steamship lines at the liberally reduced rates mentioned, viz.:

Red Star Line — \$100, Antwerp to New York and return.

Inman Line—\$100, Liverpool to New York and return.
Hamburg Line—\$90, Hamburg to New York and return.
Royal Netherland —\$80, Amsterdam to New York and return.

And that the several lines named have consented to extend the same rates to the families of members, as the following letter shows :

WASHINGTON, D. C., FEB. 14, 1887.

A. Y. P. GARNETT, M.D., *Chairman of the Committee of Arrangements of the International Medical Congress:*

Dear Doctor:—I am happy to inform you that, through the instrumentality of Mr. Edward F. Droop, agent in this city for the Lines, who has manifested so much interest in this matter, we have been able to secure from the Hamburg-American, the Red Star and the Inman Lines the offer of the same reductions for the families of members of the Congress as those I have already reported for the members themselves.

Very truly yours,

J. W. H. LOVEJOY,

Chairman Committee on Transportation.

In order to aid the work of the Committee on Transportation, the State Department at Washington has instructed the resident U. S. Consuls at European ports from which the steamships leave to actively aid in ascertaining the number of those wishing to avail themselves of the reduced rates offered. This is more fully explained by the two following letters:

FEB. 14, 1887.

Editor of the Journal of the American Medical Association:

Dear Sir:—The following additional information relative to transatlantic transportation is furnished for publication :

The White Star Line as well as the Cunard Line, having declined to make any reduction in fare, you will please strike out *Havre* from the list of European ports last published.

I enclose also, for publication, a copy of instructions which the State

Department has kindly sent the resident U. S. Consuls at the ports of Liverpool, Hamburg, Bremen and Antwerp.

Very respectfully,

A. Y. P. GARNETT, M.D.,

Chairman Committee of Arrangements for the International Medical Congress.

DEPARTMENT OF STATE, WASHINGTON, FEB. 5, 1887.

Sir:—The Committee of Arrangements of the International Medical Congress, which meets in Washington in September next, desire to ascertain as nearly as possible the number of delegates who will attend the same, with a view of making favorable terms for their transportation. For this purpose you are therefore instructed to bring the matters to the attention of those interested by such means as you deem best, requesting that you may be furnished with the names of such delegates as will attend, and the number of ladies who will accompany them. The result of your efforts should be promptly reported. I am, sir, your obedient servant,

J. D. PORTER,

Assistant Secretary.

BOOK REVIEWS.

THE SCIENCE AND ART OF OBSTETRICS. *By* THEOPHILUS PARVIN, M.D., LL.D., *Professor of Obstetrics and Diseases of Women and Children in Jefferson Medical College, Philadelphia, etc., pp. xv. and 701. Philadelphia :* LEA BROTHERS & COMPANY. *Chicago :* A. C. McCLURG & COMPANY. 1886.

The author says in his preface that "he has endeavored to write a book which will be useful alike to students and to practitioners." He has been actively engaged as a teacher nearly twenty years, and may consequently be presumed to have included, within the limits which he has chosen, whatever he considers of essential value in relation to his subject. In its present edition, the book will hardly become a classic. As a practical guide for daily use by the under-graduates or by practitioners, it is excellent and reliable ; but as a book of reference, it will be found disappointing. All topics usually discussed in such books are very intelligently and practically treated in this one, and if disappointment arises in consulting it, it is because the treatment of the subject in hand is not quite full and complete. The book is fairly open to the charge that American authorities and experience are too exclusively drawn upon and cited.

The author's style is that of a teacher, rather than that of an author, and his book is much more practical than scientific. There are two hundred and fourteen wood-cuts and

one colored plate, and these illustrations are fairly well chosen. The index, so far as tested, is satisfactory, and as already stated, the book will be found an excellent practical guide in the practice of obstetrics. E. W.

HANDBOOK OF PRACTICAL MEDICINE. By DR. HERMANN EICHHORST, *Professor of Special Pathology and Therapeutics and Director of the University Medical Clinic in Zurich. Volume I. Diseases of the Circulatory and Respiratory Apparatus. One hundred and three wood engravings; pp. v, 401. New York: WILLIAM WOOD & COMPANY. Chicago: W. T. KEENER.*

This work of four volumes, which constitutes a portion of Wood's Library for 1886, is a translation under another name of Eichhorst's *Speciellen Pathologie und Therapie*, 1885, although no mention of this fact or of the name of the translator is found on the title page.

It is a most acceptable addition to our literature in English from the German school of medicine. Volume I, to which this notice especially refers, includes the diseases of the circulatory and respiratory apparatus.

The section devoted to cardiac affections is particularly creditable. Even valvular lesions of the right side of the heart, which are ordinarily but superficially considered, receive extended notice. True, pulmonary insufficiency and stenosis are rare, and although relative insufficiency of the tricuspid valve is more frequent, particularly in the course of mitral or aortic disease and in pulmonary affections, isolated tricuspid lesions are also rare. "Among two hundred and thirty cases of valvular lesion, von Bamberger found the tricuspid affected [primarily] only in two." Nevertheless,

cases of doubtful character are continually arising, in which it is necessary either to establish or positively to exclude these right-sided valvular defects, and for this purpose a knowledge of their murmurs and paths of conduction is essential.

To diseases of the nasal cavity are apportioned but five pages, and diseases of the larynx fare only a trifle better. The subjects should rather have been omitted entirely, as the purpose of conforming the contents of a book absolutely to its title is hardly sufficient cause for the insertion of chapters scarcely approaching mediocrity into an otherwise laudable work.

Diseases of the lungs are comprehensively treated. Pulmonary tuberculosis, however, is here omitted, evidently being embraced elsewhere in the work under the general subject of tuberculosis.

Regarding the etiology of acute fibrinous or croupous pneumonia, the positive opinion is advanced that "it is an infectious disease, whether it develops primarily or secondarily, and that catching cold possesses a causal significance, only in so far as it favors the occurrence of infection." It is further opined that the disease may be produced, not alone by a single kind of microbe, but by various forms of bacilli. From this standpoint is explained the occurrence of secondary pneumonia during the course of other infectious diseases, *e. g.*, the "schizomycetes" of typhoid fever, gaining access to the alveolar spaces of the lungs, may there occasion a fibrinous pneumonia. Much reason is advanced in support of this argument, and yet it were difficult to conceive, in accordance therewith, why a robust steamship captain, having been exposed on the steamer-bridge in mid-ocean to a

severe gale for forty-eight hours, should suddenly be taken ill and die of pneumonia.

Whilst recognizing the infectious character of the disease in general, in explanation of all cases, it seems to us necessary to assume either that cold may at times serve as the sole etiological factor or that there are two diseases anatomically apparently identical, one an infectious systemic disease with a local manifestation, and the other a simple local inflammatory affection, accompanied by systemic symptoms.

The author recognizes, in a pathological sense, the frequent transition of acute fibrinous pneumonia into chronic interstitial pneumonia or fibroid phthisis, and suggests that chronic bronchitis, broncho-pneumonia, and acute pleuritis, on account of intimate lymphatic communication with the interlobular connective tissue, may also serve as primary causes of fibroid phthisis. This view conforms to practical clinical experience, and the attempt to draw undeviating lines of demarcation between these various affections should therefore cease.

The illustration of the oldest form of pneumatic cabinet, that of Tabarie, is of interest in connection with the recent introduction in this country of more nearly perfect forms of this apparatus.

W. E. CASSELBERRY.

THE SURGICAL DISEASES OF CHILDREN. By EDMUND OWEN, M.D., F.R.C.S. LEA BROTHERS & COMPANY, Philadelphia, 1886. Octavo. Chicago: A. C. McCLURG & COMPANY.

This little book* forms one of a series of "Clinical Manuals for Practitioners and Students of Medicine." Each

chapter is concise, pointed and admirably written. In mooted cases the author has chosen that theory of cause which furnishes the "best working basis" for successful treatment. Thus, he considers croup, diphtheria and membranous laryngitis practically identical, and early tracheotomy is strongly advocated.

Tubage is noticed briefly. With this operation Dr. Owen has evidently had no experience, but he pronounces it "an untrustworthy substitute for tracheotomy," and discountenances its use in children.

On acute intestinal obstruction he says, "Abdominal section is the only method of active treatment on which reliance can be placed, and its performance is demanded where the diagnosis has been made." And further, "Little trust should be placed in treatment by distention."

The illustrations comprise four chromo-lithographs and eighty-five engravings.

M. E. B.

SURGICAL DISEASES OF THE KIDNEY. *By* HENRY MORRIS, M.A., M.B., F.R.C.S., *Surgeon to and Lecturer on Surgery at the Middlesex Hospital, London.* 12mo. Pp. 555, with 6 chromo-lithographic plates and 40 engravings. Philadelphia: LEA BROTHERS & COMPANY, 1886. Chicago: A. C. McCLURG & COMPANY.

There is no date upon either the title page or preface to show when this book was written. It is evident from the body of the work, however, that it was printed in 1886.

The coloring of the chromo-lithographic plates is much too high to be true to the appearances upon the surgical table or in the post-mortem room, but in this respect they are less at

fault than such plates usually are. They have been carefully prepared, and they add much to the value of the volume.

Regarding the merits of the book, aside from the illustrations, it may be said that the author shows that he is fully at home in his treatment of the subject. The references to the literature involved are very abundant. The most striking defect in the book is the failure to sufficiently insist upon the importance of antiseptic details in the operations described. To this objection it is not enough to reply that the book is not written for beginners, for any book which does not insist upon the importance of careful and complete antiseptic measures in surgical operations will be condemned by many for the omission.

E. W.

A LABORATORY GUIDE IN URINALYSIS AND TOXICOLOGY. *By* R. A. WITTHAUS, A.M., M.D. *Pp.* 73. *New York:* WILLIAM WOOD & COMPANY. 1886.

Professor Witthaus gives us here a very useful little manual for laboratory work.

The descriptions of methods and tests are accurate and concise, as one would naturally expect from an author who has already made himself known by numerous contributions to medical chemistry.

The work is full enough to satisfy the wants of the general medical student.

A blank page is left opposite each printed page for notes.

A COMPEND OF PHARMACY. *By* F. E. STEWART, M.D., Ph.G. *Pp.* 196. *Philadelphia:* P. BLAKISTON, SON & COMPANY. 1886.

This little book is No. 11 of the "Quiz-Compend" series. It is based on the well-known "Text Book of Pharmacy," by

Joseph P. Remington, and answers fully the purpose for which it is intended.

The author expressly states that it is not to be used as a text-book, but as an aid in the study of a larger work.

Employed in this way it will doubtless render assistance to the student of pharmacy.

HOUSE-PLANTS AS SANITARY AGENTS; OR, THE RELATION OF GROWING VEGETATION TO HEALTH AND DISEASE. By J. M. ANDERS, M.D., Ph.D. *Pp.* 334. *Philadelphia*: J. P. LIPPINCOTT COMPANY. 1886.

This interesting work contains a great deal of information on an important subject. The author has published several papers during the last few years on the chemical activity of growing plants, and the results given in these with much new matter, and abstracts of the work of others, is here presented in book form. The value of house-plants as agents in the purification of air has been discussed pro and con; the numerous observations of Dr. Anders seem to show conclusively that the good they accomplish is generally underestimated.

BOOKS RECEIVED.

How we Treat Wounds To-day. By Robert T. Morris, M.D. New York: G. P. Putnam's Sons. Chicago: A. C. McClurg & Company.

A Treatise on the Principles and Practice of Medicine. By Austin Flint, M.D., LL.D. Philadelphia: Lea Brothers & Company. Chicago: A. C. McClurg & Company.

Massage as a Mode of Treatment. By William Murrell, M.D., F.R.C.P. Philadelphia: P. Blakiston, Son & Company. Chicago: W. T. Keener.

Transactions of the American Surgical Association. Vol. IV. Edited by J. Ewing Mears, M.D. Philadelphia: P. Blakiston, Son & Company. Chicago: W. T. Keener.

The Curability of Insanity. By Pliny Earle, A.M., M.D. Philadelphia: J. B. Lippincott & Company. Chicago: A. C. McClurg & Company.

The Functions of the Brain. By David Ferrier, M.D., LL.D. New York: G. Putnam's Sons. Chicago: A. C. McClurg & Company.

A Laboratory Guide in Urinalysis and Toxicology. By R. A. Witthaus, A.M., M.D. New York: Wm. Wood & Company. Chicago: W. T. Keener.

Hand-book of Practical Medicine. Vol. III. Diseases of the Nerves Muscles and Skin. By Dr. Hermann Eichhorst. New York: Wm. Wood & Company. Chicago: W. T. Keener.

House-Plants as Sanitary Agents. By J. M. Anders, M.D., Ph.D. Philadelphia: J. B. Lippincott & Company.

A Manual of Obstetrics. By A. F. A. King, M.D. Philadelphia: Lea Brothers & Company. Chicago: A. C. McClurg & Company.

Outlines of the Pathology and Treatment of Syphilis and Allied Diseases. By Hermann von Zeissl, M.D.; translated by H. Raphael, M.D.

Manual of Operative Surgery. By Joseph D. Bryant, M.D. New York: D. Appleton & Company. Chicago: A. C. McClurg & Company.

A Text-book of Medicine, for Students and Practitioners. By Dr. Adolf Strümpell. New York: D. Appleton & Company. Chicago: A. C. McClurg & Company.

Special Pathological Anatomy and Pathogenesis. By E. Ziegler. London and New York: MacMillan & Company. Chicago: W. T. Keener.

REPORTS AND PAMPHLETS RECEIVED.

Eighth Annual Report of the State Board of Health of Illinois.

Thirteenth Annual Report of the State Board of Health of Michigan.

Seventh Annual Report of the State Board of Health, Lunacy and Charities of Massachusetts.

A Novel Procedure for the Removal of Sub-glottic Laryngeal Growths with a report of an illustrative case. *By Wm. Chapman Jarvis, M.D.*

Memorias, Leidas en la 2a Serie de Sesiones de la Sociedad Española de Laringologia, Otologia y Rinologia. 2a Fasciculo del Tomo I.

Des Cataractes et de leurs Opérations, Conférences, Cliniques Professés. *Par le Dr. Galezowski.*

Hard Chancre of the Eyelids and Conjunctiva. *By David DeBeck, M.D.*

General Atrophy of the Conducting Apparatus of the Ear. *By S. O. Richey, M.D.*

Naso-Pharyngeal Catarrh. *By J. G. Carpenter, M.D.*

A Case of Lithotomy with Artificial Opening for Drainage. *By J. G. Carpenter, M.D.*

Urethral Lithotomy in the Female. *By J. G. Carpenter, M.D.*

Method in Medical Study. *By Charles H. May, M.D.*

The Relation of the State and the Medical Profession. An Address. *By Charles J. Lundy, A.M., M.D.*

Report of the Surgeon-General of the Navy for the year 1885.

Circulars of Information of the Bureau of Education.

Surgical Notes from the Case-book of a General Practitioner. *By Wm. C. Wile, M.D.*

Report for the Year 1885-86. Presented by the Board of Managers of the Observatory, to the President and Fellows of Yale College.

Operations in the Drum-Head for Impaired Hearing; with fourteen cases. *By S. S. Bishop, M.D.*

Galvano-Cautery in Diseases of the Prostate, Bladder and Urethra. *By Robert Newman, M.D.*

Is Electrolysis a Failure in the Treatment of Urethral Stricture? *By Robert Newman, M.D.*

Medical Communications of the Massachusetts Medical Society. Vol. XIII. No. 5. 1886.

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ORIGINAL COMMUNICATIONS.

COCAINE-DOSAGE AND COCAINE-ADDICTION.

By J. B. MATTISON, M. D., BROOKLYN, N. Y.

Read before the Kings County Medical Society, February 15th, 1887.

The sad story, in a recent *Record*, of the Russian surgeon's suicide from sorrow or remorse due to his belief that a patient had died from an overdose of cocaine, points a moral, the import of which demands more than a passing notice.

No advent in the therapeutic arena during the last decade has been attended with such varied and extensive claims for favor as cocaine. Its marvelous effect in ophthalmic surgery aroused a spirit of experimental research in other directions which has added largely to its well-proven power for good; but, as has been well observed, a potency for good implies a potency for harm, and the risk impends of its ardent advocates being carried by over-enthusiasm beyond the limit of a safe regard for the welfare of their patients or themselves, that may imperil an otherwise well-founded success.

Surely it is, in the writer's opinion, full time to draw the line; to re-voice a warning as to the use and abuse of this valued,

but, at times, toxic drug, lest the roll of alarming, dangerous and fatal effects from its ignorant or incautious use be sadly extended, and a reaction ensue that, by creating distrust within and without the profession, will damage its good repute and hinder its use in cases where it would be almost certain of serving us well. And the need of this seems all the more called for in view of opinions expressed, during the past year, in certain quarters, affirming the harmless character of cocaine—opinions which, I am convinced, are at variance with well accredited facts, and should not be allowed to pass uncontradicted.

Cocaine seems to have secured for itself a more than usual share of attention aside from the professional press. One metropolitan daily, in particular has again and, again given its columns to a discussion of the topic, and in a somewhat lengthy article not long ago, an “eminent but unnamed specialist”—Dr. Francke H. Bosworth—was reported as saying “there is not a well-authenticated case on record, as yet, where cocaine has effected injury.”

In view of cases cited in this paper, and others elsewhere recorded, such a statement is no longer tenable, and any conclusion based thereon as to the harmless nature of cocaine is misleading and incorrect.

And the evidence herewith presented weighs even more heavily against an assertion by Dr. Wm. A. Hammond, at a recent meeting of the New York Neurological Society, in the course of his “Remarks on Cocaine and the so-called Cocaine Habit,” when, after telling his taking of eighteen grains at a subcutaneous dose, he asserted “he did not believe any dose that could be taken was dangerous!” What might be the outcome of such an opinion put in practice? The Russian sur-

geon's error of judgment, fatal to his patient and himself, was largely due to his reliance on the asserted use by other surgeons of large doses without ill-effect. Might not a like result follow an incautious dependence on Dr. Hammond's disbelief in the toxic power of cocaine? The *Record* well said of Prof. Kolomnin's case: "The experience, though so sad, may not be without its lesson"; and puts a very pertinent query as to whether "there are not other surgeons who could report very serious, if not fatal, results from injudiciously or ignorantly using too large a dose of cocaine.

Fifty cases herewith noted attest a power in this drug on some patients that warrants caution with all.

"A young woman, aged twenty-three, was sent to Prof. Kolomnin, and found to have a large ulcer of the rectum, which was diagnosticated to be of tuberculous nature. He decided to scrape and cauterize the lesion and to use cocaine anæsthesia during the operation.

"In order to produce anæsthesia, he had fifty grammes of a five per cent. solution of hydrochlorate of cocaine prepared; of this, thirty grammes were brought into use, containing exactly twenty-four Russian grains of the salt, or twenty-three English grains—the Russian grain is exactly one-sixteenth of a gramme—six grains being injected at a time into the rectum. After the third of these injections, it was found on examination that the part was still sensitive. A speculum was then introduced, the ulcer dabbed with a dry sponge, and then the fourth injection given, making twenty-four grains in all. After this the parts were tolerably anæsthetic. The ulcer was scraped, and a tampon saturated with oil inserted. The pulse was then accelerated. During the operation the patient groaned, so that even the twenty-four grains had not produced complete anæsthesia.

"After the operation, Kolomnin went round his ward, and in three-quarters of an hour a message was sent to him that the patient was very low. He found the pulse very weak, the face and hands cyanotic, and the respiration labored. He considered that she was in a toxic state, and used every means to bring her round, Prof. Sushchiniski being also invited to a consultation. Faradization, artificial respiration, hypodermic injection of ether, administration of ammonia, tracheotomy for the inhalation of oxygen, stimulating and nutrient enemata—all were tried, but without success. Kolomnin had no doubt that death was due to cocaine."

Dr. W. H. Long, U. S. Marine Hospital Service, reports in the *American Lancet* the case of a man aged thirty-three, to whose larynx he applied, three times, a four per cent. solution of cocaine. Prompt relief was given, but three and one-half hours later the patient was found unconscious; breathing, labored; respirations, twenty; pulse, ninety; general condition, one of profound anæsthesia. Diagnosis: cocaine poisoning. Several doses of whiskey were given subcutaneously. In half an hour, consciousness was partially restored, then gradual and full improvement, save a feeling of great exhaustion.

Four days later cocaine was again used. Thinking the former toxic effect due to swallowing some of the solution, and probably absorption by larynx, extra precaution was taken to have it expelled and the pharynx well rinsed. Two applications of a two per cent. solution were made. Relief was again complete, but three and one-half hours after the patient was in the same condition as before, except that the anæsthesia was not so profound. Frequent injections of whiskey were again used with partial success—he could swallow and answer questions—but, soon after, he suddenly ceased to breathe. The

heart beat a short time longer. All efforts at resuscitation failed. The probable immediate cause of death was paralysis of the respiratory center due to cocaine.

Dr. F. M. Thomas, Leonardsville, Kansas, reported to Prof. R. Ogden Doremus, as follows:

"Friday morning, October 23d, 1885, I was called to see Mrs. —, aged thirty-nine, whom the messenger reported as dying. I found her unconscious; breathing heavily and irregularly, pulse thirty-five, intermittent; temperature normal; left pupil largely dilated, right natural; right arm and lower limbs motionless; face spasmodically drawn upwards toward the dilated eye.

"Spasmodic action of the left arm and upper part of the body came on regularly at intervals of a few minutes, during which she clutched the bed-clothing, and seemed to be trying to vomit. Twice during my attendance she ejected small portions of the previous evening's meal. Salivation was excessive; she retained a dorsal decubitus; would not lie on either side. Heart seemed almost exhausted.

"I saw her at 5 A.M., and was with her nearly all the time till she expired, apparently completely exhausted, about 8:30 A.M."

On inquiry, the Doctor learned that Mrs. — had been freely using a four per cent. solution of cocaine, for toothache, due to several much-decayed left upper molars. His diagnosis was cocaine poisoning.

Dr. Knabe, of Berlin, records the case of a girl aged eleven, who was given four to twelve drops—the exact amount was not determined—of a four per cent. solution of cocaine, by injection over the deltoid, to remedy frequent fainting fits—she having cardiac degeneration, *a sequela* scarlatina. In less than forty seconds the girl took a deep breath, became deadly

pale, and dropped unconscious. One minute later she was dead.

In the Australasian *Medical Gazette*, August, 1886, Dr. W. E. Ramsden Wood reports this case. "A. B. suffered from neuralgia, due to a defective tooth. Extraction being impracticable, cocaine—amount not stated—of a ten per cent. solution was injected, with prompt relief, lasting some hours. Next day, the pain being very severe, the patient sent to his chemist for a similar solution, and three minims were injected, but without the desired effect; he returned it to the chemist and asked him to make it stronger, which he did, making it twenty per cent. He brought this to me, but omitted to tell me that the solution was double the strength of that which I had used. He told me that three minims had not given him the relief that he had experienced from mine; I therefore gave him four minims of what I believed to be a ten per cent. solution, and within five minutes he became restless and inclined to vomit; he then began to feel a sensation of pins and needles in the left hand and arm, which rapidly extended to the right side. This was speedily followed by contraction and rigidity of the fingers, arms and legs; there was also a tendency to opisthotonos. His pulse became extremely rapid and feeble, his face livid, and the muscles of his mouth and cheeks strongly contracted. His respirations were short and convulsive, his feet and hands very shortly became cold, and a profuse perspiration broke out on his head and face.

I first gave him half a tumbler of brandy, followed at short intervals by drachm doses of spiritus ammon. aromatic, and applied strong mustard over the cardiac region, and used friction to the upper and lower extremities; at the same time I let him inhale a few drops of chloroform to try and check the

spasmodic contractions. After continuing these remedies for nearly an hour, the pulse began to improve, the color to return to the face, and the rigidity of the muscles lessened, but returned immediately after I stopped the friction. At the end of two hours he improved more rapidly, but felt somewhat drowsy, and it was not until about four or five hours that all the symptoms had subsided.

C. S. Kilham, L.R.C.P., Sheffield, England, read before the Sheffield Medico-Chirurgical Society, November 25th, 1886, this history of a case: On November 9th, 1886, at twelve noon, John B—— accidentally took four and four-fifths grains of cocaine hydrochlorate in the form of solution. At 12:30 he was seized with severe cramps in the stomach, nausea, throbbing and feeling of bursting in his head, failure of eyesight, loss of use of his legs, incoherence of speech and confusion of ideas, and drowsiness, but could always answer questions when aroused. No delirium: appeared as if drunk, and got quite helpless. Brandy was given to him and he vomited after it, but only the remains of food. About 12:50 he commenced sweating most profusely, shirt, etc., being soaked through, perspiration streaming down his face and body, and his head steaming. Pupils were normal and equal. No loss of taste. The sweating lasted some time and was succeeded by very severe prostration, shivering and feeling of impending death. At intervals the patient had severe cramps in the stomach, with retching and vomiting of a quantity of clear mucus, which relieved the pain. About 1:15 P. M. the pulse became intermittent—missing every fifth beat. This was accompanied by cyanosis of the face and intense feeling of

suffocation over the cardiac region. Relief was afforded by sinapisms. The pulse varied from eighty to eighty-six, never more, and became gradually regular. About 1:45 P. M. he began to have cramps in the legs and feet—especially on dorsal surface of right foot—and tingling and numbness in both hands. Later on the pupils became dilated. The vomiting and cramps ceased about 4 P. M. —unless food were taken—but the drowsiness, throbbing of head and prostration continued up to 6 P. M., when the patient began to get warm and feel relieved. The improvement continued, and he could be moved at 8:30 P. M. There was great weakness, with swimming of head all night.

Next day there was still weakness, continual vomiting, a dry, leathery feeling in the mouth, with loss of taste, partial loss of power in the legs, and tingling and numbness of the fingers, especially of the right hand. These symptoms commenced nearly thirty-six hours after taking the cocaine, and most of them disappeared in twenty-four hours. The loss of power in the legs lasted three days, and the tingling and numbness of fingers longer. He was not able to write a letter until the sixth day, as he could not feel the pen between his fingers before.

An emetic was at first given, with sinapisms over the heart and stomach; afterwards, warmth and stimulants—principally compound spirit of ammonia.

The patient was in the habit of taking one-fourth grain of cocaine for neuralgia of the stomach. The most remarkable symptoms were the severe sweating, the intense prostration and the intermittent pulse.

Dr. Geo. Elder, Nottingham, Eng., in the *Lancet*, October 30th, 1886, says: "Preliminary to opening a superficial abscess, twelve minims of a freshly prepared ten per cent. solution were injected under the skin; three or four minutes after, syncope supervened, followed by twitchings of the face, falling of the jaw, coldness of the body, clammy perspiration, lividity of the face—in fact, all the appearances of imminent death. The patient was several minutes in recovering consciousness, and during the remainder of the day felt very prostrate." Dr. E. Adds: "Several similar occurrences have been noted, showing that cocaine is not so innocuous as has been generally supposed."

James Leslie Callaghan, in the London *Lancet*, June 12th, 1886, reports as follows: "A patient of mine who was suffering from toothache resulting from a hollow tooth, applied some of a four per cent. solution of hydrochlorate of cocaine to the tooth and gums. He did not spit it out, but, according to his story, swallowed from twenty to thirty drops. Within half an hour he was seized with a feeling of faintness and giddiness, then an attack of palpitation of the heart came on, and he complained of tingling and numbness, dryness of the throat, and a sensation of heat and flushings moving over the body, but especially on the spine. Suddenly a rash like scarlatina made its appearance over the body; vision was somewhat dimmed. I immediately gave him a strong dose of mustard and warm water, which did not cause emesis. I then administered twenty grains of sulphate of zinc, but without effect; it was only by repeating the dose that vomiting took place. The patient was relieved for a few minutes and seemed brighter, but the

symptoms soon returned, and he felt so weak that he thought he was dying. I held some strong ammonia to his nostrils, but he said he could not smell it. I kept walking him about, but his legs tottered so much I had to support him. He constantly felt a desire to have the use of his bowels and bladder. The pulse became fast, weak and intermittent; the mind remained clear."

Dr. Fred'k S. Williams, of Puyallup, Washington Territory, reports in the *Medical Record*, September 25th, 1886, this case: A lady on whom he wished to operate for a lacerated cervix, had a pledget of cotton saturated with a twenty per cent. solution of cocaine placed over the cervix, and four minims of the same solution injected on each side of the wound. "In about a minute and a half the patient began to speak as with an effort, saying 'I feel so faint,' and gasped as if struggling for breath. She was immediately placed on her back, with head lowered, and told to breathe deeply. She obeyed for a few times, then recommenced her gasping, which she continued for about a minute. Then followed shallow breathing for four or five minutes, when she began to rally a little, and the breathing became gradually stronger but irregular.

"Her pulse at first was very rapid, irregular and weak, then became, during most of the time of the shallow breathing, almost imperceptible, gradually returning with the approaching normal respiration.

"Consciousness at once was dulled, and during the period of the shallow respirations was completely lost.

"At the end of about ten minutes she rallied, pulse, respiration and consciousness becoming normal."

Myerhausen relates the case of a "girl, twelve years old, in whom two drops of a two per cent. solution were instilled in the conjunctiva four times, at intervals of five to eight minutes. In all, only a little over one-tenth of a grain was administered, of which certainly one-half must have been lost through the tears. Immediately after the operation, the child commenced to complain of headache, which became more and more severe until it was almost unbearable. Nausea and vomiting persisted through the entire day. The patient was greatly prostrated; stumbled in walking; speech was almost entirely destroyed, as though the tongue were paralyzed. These symptoms of poisoning lasted all through the night, in which no rest was possible, and gradually disappeared towards the evening of the following day."

Dr. Robert Newman, New York city, kindly sent me this report: Patient, a female, aged thirty-seven, was treated for chronic cystitis, by washing out and dilating the bladder daily. To allay the pain, fifteen minims of a four per cent. solution of cocaine were injected per urethra. This, increasing the drug a little each day, was used three times. After the third injection, while the cystic pain was allayed, a severe headache ensued, which persisted for several hours. On the fourth day, having increased the cocaine to twenty-five minims, "while still washing out the bladder with *hot* water, a piercing pain in left temple occurred, running round the back of the head in a circle, and feeling as if the top of the head would split open. Pupils dilated; expression anxious; restlessness marked. More than a week passed before all toxic traces ended. There can be no doubt cocaine caused the trouble, and the symptoms were alarming."

In the London *Lancet*, 1886, is recorded the case of a female, aged twenty-five, who had a watery solution containing fifteen centigrammes of hydrochlorate of cocaine injected into the nose. In twenty minutes giddiness, weakness and impaired vision ensued. A little later she was semi-comatose, with slight dyspnœa and pulse uncountable. These symptoms disappeared in three hours under friction and internal stimulation.

Dr. Schilling in the *Pharmaceutical Journal*, records a case in which the injection of six drops of a two per cent. solution into the gums of a woman, aged twenty-six, to prevent pain of extracting a molar, was followed by toxic symptoms, of which facial rigidity, deafness, blindness, complete loss of motion and sensation, and unconsciousness for a half-hour, were the chief. They subsided after inhaling nitrite of amyl.

Dr. Heyman reports a case in which the effects following the use of cocaine closely resemble that noted by Myerhausen. The patient, a boy, had a solution of cocaine liberally applied to his pharynx and larynx. Toxic symptoms soon set in. He was apathetic with speech and walking disturbed. Pulse and respiration increased. Temperature rose to $100\frac{3}{4}$. Five hours after, patient could not walk. Symptoms persisted ten hours.

Dr. Schwarzbach, *Australasian Medical Gazette*, January, 1886, reports the case of a lady who used cocaine, locally, for pain in the eye. She suddenly became very ill; stupor, pallor, slow pulse and cold perspiration. Under wine and strong coffee, recovered in a few hours.

G. Bockl observed alarming effects follow an injection of six drops of a two per cent. solution into the gums. In ten

minutes patient became unconscious, with gaze fixed, vision defective and delirium. Nitrite of amyl gave relief.

Dr. Landesburg, New York city, used two grains subcutaneously, as an experiment, on himself. In less than two minutes he felt his heart beating violently and blood rushing to his head, quickly followed by fullness and roaring in the latter, and noises in the ears. Thought was confused, volition impaired. Great restlessness, and numbness with twitchings were felt in toes and fingers. Nausea and epigastric pressure marked. Face very pale and covered with cold sweat. Pulse feeble, eyes sunken, pupils dilated, vision dim. In thirty minutes, took to bed with nausea, headache and general prostration. Recovery followed a night's sound sleep.

Drs. Bardet and Meyer, assistants of Dujardin-Beaumetz, anæsthetizing, for experiment, their own skin, observed, half an hour after the injections, dilated pupils and comatose symptoms. One of them fell in a state of vertigo, with pallid face and extreme heart weakness. These toxic symptoms followed hypodermic doses, never exceeding one-third of a grain.

Dr. Ziem, of Dantzic, in 1885, reported a case in which a solution applied to the eye caused pallor and embarrassed breathing, and said that, up to that time, seventeen cases had been cited in ophthalmological literature, in which toxic effects followed the use of cocaine. In three, by injection; fourteen applied to the eye. Pallor, giddiness, dyspnœa, malaise, apathy, great prostration, tottering gait, difficulty of speech, mental confusion and extraordinary restlessness were symptoms noted in both strong and feeble men and women.

Dr. G. W. Kennicott, in the CHICAGO MEDICAL JOURNAL AND EXAMINER, October 20th, 1885, reports: A young woman,

aged twenty-five, of good constitution, had been using, per medical advice, a two per cent. solution of cocaine for hay-fever. The supply becoming exhausted, she procured two 5 grain vials of the muriate, full strength, and applied two-thirds of the contents of one bottle to both nostrils with a small glass insufflator. In twenty minutes she became dizzy, vision dark, and a sinking sensation occurred, with great weakness. In half an hour she was semi-comatose, pulse scarcely countable, so rapid and weak; pupils widely dilated; speech and swallowing difficult; dyspnoea; nausea; throat dry; teeth chattered, and she shivered with cold. Later, drowsy; eyes closed; face muscles affected; weakness extreme, she could not support her head. She recovered in three hours under brandy, ammonia, digitalis, heat to epigastrium, and heat and friction to extremities.

Dr. Geo. J. Engelman, in the *Medical Review*, June 13th 1885, records these cases: Mrs. C., aged twenty-eight, in fair health, at 5 P. M. took one-sixth of a grain by the mouth; one hour later this dose was repeated, and soon after she felt a tingling in her fingers, hands and wrists, with discomfort and oppression about the chest, and vomiting the moment she turned in bed. At 7:30 she took a third dose, same amount, and in fifteen minutes was excessively restless, great difficulty of breathing, tight band-like feeling about chest, faint and felt as if dying. At 8 o'clock still faint, was dyspnoic, and tingling had extended to feet and legs. At 8:15 tingling gave way to numbness, beginning in hands and extending to feet; "became perfectly still, as if breathing her last;" quite numb and stiff; thumbs adducted; pulse feeble, frequent, irregular and intermittent.

These toxic symptoms subsided after one-sixth of a grain of morphia, hypodermically.

Mrs. F., aged thirty-five, enciente, took forty drops of a four per cent. solution to relieve nausea. Immediately she felt a complete numbness along the tongue and throat; to test the feeling she bit her tongue, and found it perfectly numb. She became weak, perfectly relaxed, with oppression about the heart, and felt as if dying. In twenty minutes the entire body became cold and numb. Pulse feeble and very rapid. Heart felt as if constricted by an iron band, and "hammered loudly at a fearful rate." Symptoms persisted several hours.

Dr. Litten, at a meeting of the Berlin Medical Society, November 4th, 1885, in a debate on the action of this drug, cautions against its too general use. He said that among other ill-effects known to occur after an injection are attacks of mania, sometimes very violent, which may prove dangerous; and he asserted the various toxic effects, in some individuals, reach such a high degree that actual danger to life seems to threaten the patient. The three cases next cited are of interest in this regard.

Dr. Geo. T. Stevens, *Medical Record*, January 17th, 1885, reports that he injected four minims of three and one-half per cent. solution under the conjunctiva of a strong man. In eighteen minutes "violent convulsions set in, attended with desperate struggles to breathe. The face became livid, consciousness was lost, and the patient became uncontrollable. After struggling in an easy-chair for some time, he arose in a state of frenzy and struck violently about. Stimulants were administered, and the most alarming stage of the paroxysm

ceased after a duration of nearly twenty minutes. Fully half an hour, however, passed before we could regard our patient as beyond danger. I believe that this paroxysm was the manifestation of the toxic influence of the drug." •

Dr. Robert Newman, of New York, has reported to me the case of a gentleman, aged forty, in whose urethra a physician injected one drachm of a cocaine solution—strength not stated—prior to cutting the meatus. In half a minute, patient's face flushed, he felt a general pricking sensation, followed by a piercing sting in his temple, violent headache and great excitement. Then he became maniacal, and under the delusion that he had been attacked by a robber, sprang from his seat, seized the doctor by the throat and began to beat him. The delirious excitement persisted three hours.

A well-known physician of this city gave me his experience with cocaine. Suffering from an attack of otitis media, he used freely, by advice of his medical attendant, a ten per cent. solution in the ear. It caused flushed face, quickened pulse, and breathing—the former, 130—wild look, fixed gaze, hallucinations and delusions—the latter homicidal—attempting assault on a near relative—which persisted three hours, followed by decided depression.

Dr. J. P. Knoche, in the *Kansas City Medical Record*, December, 1885, reports the case of a man, aged twenty-three, to whom he gave cocaine, hypodermically, for anæsthesia, using, in several injections, within thirty-five minutes, about two and two-fifth grains. In seven minutes the patient was cold, and sensation lost in hands, forearms, chest and legs. In twenty minutes breathing was difficult, interrupted, sighing. Pulse almost imperceptible, intermittent and very rapid; lips and skin generally pale and cold. Patient was semi-

comatose for a time. Numbness in extremities lasted four hours ; imperfect palmar sensation ten hours. Nine hours after, severe renal pain and copious diuresis ; the tremor and weakness continued twenty-four hours. Symptoms gradually decreased under free alcoholic stimulation.

Dr. H. J. Boldt, New York city, reports four cases of toxic symptoms from cocaine injections. He injected fifteen drops of a four per cent. solution to relieve an attack of supra-orbital neuralgia. Immediately the patient's face became red, there were dizziness and dyspnœa, his pulse became frequent and feeble, and feeling of oppression about heart occurred. In three minutes the patient fell unconscious and breathing ceased, so that, for fifteen minutes, artificial respiration was required. Then respiration returned, but only five or six per minute, deep and sighing. Heart sounds and pulse very weak and frequent : pupils widely dilated : gaze fixed. Shortly before and directly after return of consciousness, there were convulsive twitchings of the upper extremities. Ten minutes later, speech was confused and incoherent. In an hour the patient was able to walk, but his gait was unsteady. Neuralgic pain did not return for three days. At the patient's request, ten drops of the same solution were again injected, and like symptoms resulted, but they were not so prolonged. Five or six drops of this solution, in this patient, caused flushing, dizziness and dyspnœa, with constricted feeling about chest, continuing half an hour.

II. Female, aged thirty-three. Eight drops of a four per cent. solution were injected for local anæsthesia prior to operation for lacerated cervix. It caused flushing, followed by

dizziness, dyspnœa, nausea, deathly pallor and cold sweat. Pulse frequent and feeble; pupils dilated. Symptoms subsided in half an hour, leaving patient so weak that operation was deferred.

III. Female, aged thirty-three. Neuralgic headache. Eight drops of four per cent. solution were injected over seat of greatest pain, causing dizziness, dyspnœa, quick, weak pulse, distress in chest, especially about the heart, deathly pallor, nausea and sweating, persisting more or less for forty-five minutes.

IV. Female, aged twenty-six. Five drops of a five per cent. solution caused, three minutes after injection, giddiness, palpitation, quick pulse, languor, and temperature rose to 100 8-10 in fifteen minutes.

Dr. F. De Havilland Hall, London, reported the case of a lady, aged fifty-six, to whose nostrils he applied a ten per cent. solution, by spraying. In a few minutes patient complained of cramp-feeling in throat; became very excited; face ashy hue; hands cold; pulse very frequent, and distress was so great that chloroform was given, which relieved the spasm, but she was not able to leave until after four hours.

Knapp noted headache, vertigo, nausea, tottering gait, skin pallor and cold sweat from hypodermic injection of thirty-five drops of a four per cent. solution, with instillation of a few drops of the same in the conjunctival sac.

Reich reported two cases, both females, aged ten and sixty, in which toxic symptoms followed the use of fifteen drops of a two per cent. solution.

Bellyarminoff, of St. Petersburg, observed five cases in which a four per cent. solution to the eye caused headache, vertigo, nausea and vomiting.

Alex. Thompson, M.B., Huntly, Eng., reported this case: He applied a few drops of a fresh two per cent. solution to the conjunctiva of W. R., aged twenty-five, perfectly healthy, prior to removing a fragment of steel. In two minutes, patient became deadly pale, reeled, and would have fallen if not supported. Was quite pulseless, and with difficulty was brought round. Fully half an hour passed before he could go home, and even then was giddy.

Dr. Grosholz, Towyn, Eng., observed a healthy farmer to whose eye three drops of a four per cent. solution were applied, causing pallor, profuse sweating about head and neck, irregular pulse, embarrassed respiration and impending syncope. A stimulant was given, but it was several minutes before the pulse became regular and consciousness was regained.

Dr. Edward Bradley, New York city, noted this case: A professional gentleman, in perfect health, had a four per cent. solution freely used in the filling of a carious tooth. Toxic symptoms soon appeared, the most noted being facial paralysis on the right side. "This condition undoubtedly began its development much earlier than the time of its discovery, as it went on its course of extension for the two succeeding days, involving every function on the right side of the head, rendering me deaf, and unable to close the eye. The brain was depressed so as to destroy all continuity of thought, and I was unable to read or exercise any mental function whatever." The paralysis remained stationary ten days, then slowly lessened, but had not entirely gone at end of six weeks.

Smidt, Ranc, Obersteiner and Blumenthal have noted, after an injection of cocaine, dizziness, agrypnia, muscular twitchings, increased reflex excitability, hallucinations and mania.

Dr. Chas. H. Hughes, St. Louis, editor of *Alienist and Neurologist*, wrote me: "I know of a case where one grain of cocaine paralyzed the heart so effectually that the pulse became imperceptible for a few seconds, and only my presence with my battery, which was in the room, and ammonia, and a morphia and strychnia hypodermic, saved the patient."

Germane to the subject of acute cocaine toxæmia is that of cocaine-addiction—these notes are preliminary to a more extensive paper on cocaine inebriety—the existence of which Dr. Hammond denies. He took a half dozen doses, at intervals of one to four days, and says "he acquired no habit." But to argue from that, no danger of addiction, is absurd. Such evidence is worthless. Dr. Hammond might do the same thing with morphia—more, he might take morphia, subcutaneously, daily, for a month or two, without creating a "habit"—albeit its ensnaring power is well admitted—and yet that would not prove its freedom from danger. Not at all; it would merely show his exceptional strength to resist—many, under a like pressure, would surely succumb.

Supporting this opinion, I quote from the last report of Dr. Orpheus Everts—Cincinnati Sanitarium—a gentleman well-known in alienistic circles, which report was kindly sent me after my paper was written—who says: "A distinguished physician of New York has recently reported personal experiences tending to discredit the claim that a cocaine habit, corresponding to the morphine habit, is acquirable. The judgment of this distinguished physician is based upon the evidence of personal experience reported by himself, he having failed to acquire the habit, or any especial fondness for the specific effects of the drug, experienced by the hypodermic injection of one, two, three, and finally eighteen grains of the

salt, on five or six different occasions in the evening before going to bed.

“But for the great reputation of this physician as an author and observer of facts, this denial would have but little weight. The testimony is both bad and insufficient. Bad, because reported by himself—the testimony of an intoxicated person respecting his experiences while intoxicated being proverbially untrustworthy—and insufficient, because the experiment was not continued long enough. Many instances might be cited of total failure to establish the morphine habit or habitual drunkenness, by the use of six or seven doses of morphine, or six or seven drinks of whiskey, one a day for six or seven days in succession. It is often the case that such experiences end with disgust for the drugs used, instead of desire to continue their use. There is also much and accumulating testimony, by competent observers, to the fact of such a habit as is alleged, respecting cocaine, which a single opinion will not invalidate, however worthy of consideration.”

Cocainism is not the outcome of using the drug at long intervals. Its transient effect and the demand of an impaired nerve status compel frequent taking—more than alcohol or opium—so that habitues have been known to take it ten, twenty or more times daily, and it is this—growing by what it feeds on—that tends to create and continue the disease.

In the early days of chloral, one point claimed in its favor was a freedom from risk of “habit,” a claim long ago exploded, as cases of chloralism well prove, and yet, I venture to assert, there are more cases of cocaine taking in this country to-day, less than three years since its arrival, than of chloral after a period more than six times as long.

Dr. Hammond says there may be instances of cocainism as

rare as chronic tea-taking, and of cases with or after habitual alcohol or opium-using, but, as for quitting the drug, he believes every cocaine-taker could if he would.

The same opinion regarding opium obtains among some medical men, and the only effective argument against such a fallacy is to place those who hold it under power of that drug, and then have them prove their precept by their practice.

While admitting that most instances of cocaine-taking are, for obvious reason, in those who have been, or are, alcohol or opium habitues, especially the latter, I maintain there are cases of pure primary addiction, and that the number is increasing, at home and abroad. Foreign writers have noted them, and they will figure in our records. Notes of one such are here given; others are at command.

I am indebted to the courtesy of Dr. J. E. Clark, Professor of Chemistry in the Detroit College of Medicine, as follows: "In July, 1885, a young man applied to me for relief for what he called a 'severe and persistent case of hay-fever.' He had consulted a large number of physicians without obtaining relief from the irritating and annoying acrid discharge from the nostrils. He claimed he only wished relief for a time until he could make arrangements to leave for the West, as he had lost hope for anything like a permanent cure in this climate.

I prescribed the following:

Cocaine Muriat.....	Eight grains,
Aquæ Camphoræ.....	Six drops,
Aquæ Destill.....	One ounce.

with directions to pour a small quantity in the hand, and snuff occasionally.

Three or four days later he appeared at my office, his face radiant with hope that he had found a specific, and remarked

that "he had felt better the last few days than for a year." He had exhausted his medicine, and I consented to his having the prescription refilled. I heard no more of the case, until one day in November I was in a drug store, and was asked by the proprietor 'do you know Mr.— is using about eight dollars worth of cocaine a week?' I expressed my astonishment, forbade any further sale, and at once called but failed to find the young man. I then drove to his parents' residence and asked them if they were aware of their son's excess in this matter. They did not know of his addiction to the cocaine, but had noticed for some time peculiar symptoms which alarmed them. I explained the circumstances fully and added my belief that no serious results would ensue provided total abstinence should follow. The sequel shows, however, the 'habit' had gone too far to be easily eradicated, as the young man went on until he became temporarily insane, had to retire from his business, and be under strict supervision until the craving disappeared, a space of about three months." The doctor adds—"this case has furnished me such *positive proof* of a lurking danger in the use of cocaine, that all the negative evidence or hypothetical assumptions published or adduced cannot have the least impression in causing me to relax for an instant the most rigid supervision of every patient to whom I in any manner administer or apply the drug."

The following report, kindly sent me by Dr. Douglas Schoolfield, Newport, Ky., well shows the ill-effect of cocaine on patients addicted to morphia.

Mr.— had been an opium-habitue for several years, from morphia given subcutaneously to relieve sciatica.

In May, 1885, taking ten to fifteen grains daily, with nervous and digestive systems impaired, but weight nearly nor-

mal and mind clear and vigorous, he came under the doctor's care. Cocaine being then in rising repute as a cure for morphia taking, he was given half a grain subcutaneously, knowing, unfortunately, what it was. Nausea, pallor, rigors and cold sweat soon ensued, followed by flushed face, brightened eyes and a feeling "never so good in all his life." He was delighted, talked incessantly, and declared himself, mentally, the peer of Spurgeon; physically, equal to Samson. The stimulant effect continued two hours, followed by lassitude and sleep. The cocaine was given at irregular, increasing intervals for two weeks, when an effort was made to quit. Two days later, he left for a summer resort and was lost sight of. The next heard of him was through the town druggist, who remarked that he thought Mr.— must be "getting a 'corner' on cocaine," as he had ordered his entire supply and the address of his wholesale house. He was written to and urged to place himself under proper medical care, but no more was heard of him for two months, when the Doctor was sent for, told he had been brought back, and given this history. On starting for his summer trip he procured a supply of cocaine and began taking it himself, several times a day. In a few days he talked and acted strangely, slept little, appetite failed, and he grew worse daily. An effort was made to withhold it, or substitute morphia, but he resisted both and raved like a madman. He had always been kind and even tempered, but now became irritable and abusive; had hallucinations and homicidal delusions; would leap from bed, rush to window, raise sash and gesticulate wildly at a fancied foe. Calmed, he would be quiet a time, and then break out in the loudest abuse of some friend present, declaring him in league with the devil for his harm.

The doctor was warned as to entering his room, and, pro-

ceeding with care, the patient was found in fighting form, with a long-necked bottle ready for battle. Addressed kindly, his suspicions were disarmed, he abandoned his hostile attitude, apologized, and declared himself quite mistaken. "His condition was pitiful indeed. Constant vigil and loss of sleep had made him a wreck. He was pale, thin, and haggard; ate nothing and slept none; was a prey to distorted fancy, a victim of unrest."

Under proper treatment, he partially recovered, and was placed in sanitarium care. Six weeks after he was discharged, but in bad mental condition, morose and melancholic. He soon became violent and threatening, and was again taken to an asylum, where he now is, improved and improving.

My experience with a number of cocaine cases makes to me two things certain: There is a pernicious power *per se* in this drug, and it finds in the opium-habitude a peculiar condition that specially favors its ill effects, making it, for such patients, as has well been said, the "Devil's own device" to still further enslave.

And this opinion is that of others, for it is the testimony, without exception, so far as I know, of those who have had to do with this disease, that as an intoxicant cocaine is more dangerous than alcohol or opium, and that inebriety resulting from its use is more marked and unyielding than any other form.

Dr. Shrady—editorial, *Medical Record*, Nov. 28, 1885—says: "To some persons nothing is more fascinating than indulgence in cocaine. It relieves the sense of exhaustion, dispels mental depression, and produces a delicious sense of exhilaration and well-being. The after-effects are at first slight, almost imperceptible, but continual indulgence finally

creates a craving which must be satisfied; the individual then becomes nervous, tremulous, sleepless, without appetite, and he is at last reduced to a condition of pitiable neurasthenia."

Dr. Alex. B. Shaw, physician to St. Vincent Asylum for the Insane, St. Louis, asserts: "Once a man flies to cocaine for relief from 'cares that annoy,' he generally continues with such rapid strides towards such complete subjugation to its bewitching thralldom as but few will ever be rescued from by any power of will which they be able to bring to their aid."

Dr. Everts writes: "It is not only not an antidote to opium-poisoning—or, more properly speaking, the organic demand for such drug-effects as have been acquired by use—but is itself a fascinating and dangerous intoxicant, the effects of which may be more difficult to counteract and renounce than are those of opium or its derivatives."

Dr. Hughes declares it "a remedy to be used with extreme caution and prudence internally, and the large doses reported as having been given are not ordinarily safe. It will bear watching. It crazes and kills quicker than opium. The possibilities for immediate harm are not only great, but the likelihood of remote damage, when tolerance is established, is not small. The cocaine-habit, more pernicious than the morphine-neurosis, is the certain entailment of its frequent administration, and its thralldom is far more tyrannical than the slavery of opium."

Erlenmeyer calls cocaine the third scourge of humanity—alcohol and opium being the first and second—and Erlenmeyer is right, as to toxic neuroses. He says: "Its characteristic effects are vaso-motor paralysis, accelerated pulse, profuse sweats, dyspnœa and syncope, failure of general nutrition, eyes sunken, skin cadaveric, with mental trouble that some-

times needs restraint," and I am positive, from cases under my care, that he is correct.

I think it for many—notably the large and enlarging number of opium and alcohol-habitués—the most fascinating and seductive, dangerous and destructive drug extant; and while admitting its great value in various disordered conditions, earnestly warn all against its careless giving in these cases, and especially insist on the great danger of self-injection, a course almost certain to entail added ill.

To the man who has gone down under opium, and who thinks of taking to cocaine in hope of being lifted out of the mire, I would say, "don't," lest he sink the deeper.

I have yet to learn of a single instance in which such an effort reached success; but I know many cases where failure followed, or worse, cocaine or coca-morphia addiction.

And the need of caution against free and frequent using obtains in other cases, for there may come a demand for continued taking that will not be denied.

To summarize: Cocaine may be toxic, sometimes deadly, in large doses.

It may give rise to dangerous or even fatal symptoms, in doses usually deemed safe.

The danger, near and remote, is greatest when given under the skin.

It may produce a diseased condition, in which the will is prostrate and the patient powerless—a true toxic neurosis, more marked and less hopeful than that from alcohol or opium.

Such being my belief, I regard Dr. Hammond's statements mistaken, and his conclusions rash and dangerous.

EDITORIAL.

RECTAL MEDICATION BY MEANS OF GASES,

Though not absolutely new, has been prominently brought to the notice of the profession by Professor Bergeon. His experiments have been repeated by quite a large number of persons both in Europe and in this country. It is too soon to pronounce positively as to the value of the method, but so far there seems to be but little danger of doing harm, though a few cases have occurred in which there were developed disagreeable symptoms. The method consists in injecting into the rectum sulphuretted hydrogen mixed with carbonic acid. The proportion of the sulphuretted hydrogen should be small. The gas is taken up by the veins of the lower alimentary canal and eliminated through the lungs. As it is an antiseptic it acts upon the morbid structures through which it escapes. Such is the theory. So far as known, it does not seem to be a bactericide.

Cases now under treatment in this city are certainly improving, for some reason. The temperature is diminishing, night-sweats and expectoration are less, and their general condition is more comfortable.

The apparatus devised by Morel, in Paris, has been prepared in Chicago, and can be used easily by anyone who may desire to test this method. The carbonic acid is liberated by the action of sulphuric acid upon a carbonate; as, for instance ordinary carbonate of soda. The sulphuretted hydrogen is, by Bergeon, combined with the acid by passing this latter gas

through the natural sulphuretted waters. The mixture, contained in any convenient form of gas-holder, is ready for use. It should be introduced into the rectum unmixed with atmospheric air, as this latter may produce griping.

FOREIGN CORRESPONDENCE.

NOTES FROM A LONDON SOCIETY.

LONDON, England, February 21st, 1887.

To the Editor of THE CHICAGO MEDICAL JOURNAL AND EXAMINER:

DEAR SIR:—I send you some notes (abstracts) taken at a meeting of the Royal Medical and Chirurgical Society.

W. E. Cant, F.R.C.S., sent a paper (communicated by Mr. Holmes), on clinical observations on

“INDURATION” IN PRIMARY LESION OF SYPHILIS IN WOMEN.

The following results are founded on 3,300 cases examined in the Royal Albert Hospital, Devonport, during a period of six and a half years.

In contradistinction to the generally accepted fact, that in men induration is as a rule well marked, it is so in women far less generally. The induration which is described as being circumscribed, limited to the base of the sore, and clearly marked off from the surrounding tissue in men, in women is, about as often as not, diffused a considerable distance into the tissues around, often very widely, not sharply defined from the surrounding tissues, nor circumscribed in the base of the sore itself. The most typical form of primary sore with its induration resembling a disc of cartilage set in surrounding soft structure, described as being frequent in men, is seldom met with in women. Every variety as to the degree of development of the induration is met with in women; but there is a large proportion in which it is very slight—about one-third.

In some of these slight cases it is impossible to affirm that there is any thickening at all present, and there is a small number in which none exists throughout the whole course of the sore.

Induration is present in the early stage of the sore in a small proportion of cases. The time of its occurrence in the course of the sore varies greatly; it may occur at almost any period of its course. It becomes most marked and developed toward the middle and latter part in many cases.

Tables of cases of primary sores, grouped according to their clinical character, and showing—when first apparent—characters at earliest period, etc., and also of five cases of infecting primary sore in which there was no induration, are appended to the paper.

Dr. R. G. Hebb's paper is entitled,

“A CASE OF ACTINOMYCOSIS HOMINIS.”

W. H., æt. 11, was admitted into the Westminster Hospital on March 18th, 1886. He had suffered for a month previously from pains in the limbs, diarrhœa and “feverishness.” On admission the most prominent symptoms were those of lung consolidation and pleural effusion, for which he was tapped twice. Soon after pyæmic symptoms developed, and the patient died June, 2d, 1886. The post-mortem examination disclosed abscesses of the brain and meningitis, pneumonia, excavation of the lungs, and suppurative pleuritis.

A large vegetation was found on the wall of the right auricle of the heart, and in the liver an abscess and many areas of caseation.

On microscopical examination of the liver numerous pigmented cells were found, many of which formed the center for the departure of radiating filaments. The conjunction of these

two factors gives rise to the appearances of a definite organism, for which the name of *Actinomyces* was adopted. In the brain and lungs collections of cocci only were found.

A colloquial discussion followed the reading of these papers. The majority of the Fellows were of the opinion, regarding the first paper, that the induration around the sore would be found to exist whether in the male or female, when occupying the same class of tissues.

Regarding the second paper (*Actinomycosis Hominis*), it was generally concurred in by the Fellows that the history and post-mortem appearances of the case were useful in aid to diagnosis:

1st. Pneumonia existing.

2d. Wasting and hectic fever, swelling and tenderness of the region of the liver, and no fluid by aspiration.

Mention was made of three cases of this infection starting in the lung, and following the same course. One case of Mr. Israel; one case of Mr. Skillett; one case of Dr. Hebb.

Attention was called to total duration of the disease of three and a half months, beginning from ill health.

Specimens of *actinomyces* under microscopes (1-12 in oil) were prepared for examination.

The hour for adjournment having been announced, the proceedings were brought to a close.

WM. B. MEANY, M. D.

HAVANA, CUBA, February 20th, 1887.

To the Editor of the CHICAGO MEDICAL JOURNAL AND EXAMINER:

Of the many who seek warm winter climates, a small proportion go to the island of Cuba. Havana is usually the objective point. Cuba lies under the tropic of Cancer, its southern portion being within the tropics. Along its northern coast flows that great ocean river, the Gulf Stream. Its width opposite Havana is 90 miles; the temperature of its water about 78° F.

The Cuban winters are, therefore, always warm. They are also dry. During our brief stay on the island, the thermometer has registered 80° F., or higher, in the shade, at mid-day. During the day the air is comfortable; at night it is damp; the dews are very heavy, and the air seems chilly. The prevailing winds during the winter months are from the northeast. The city of Havana, situated upon its deep bay, with its narrow entrance, is built upon soft, porous, coral rock. Its site is nearly level. The older part of the city is upon the water's edge. It was once surrounded by a wall and fortifications. The houses in this portion are small, and the rooms are badly ventilated, some, even, being without windows; and they are often much overcrowded. The classes inhabiting this district are negroes and the poorest whites. The streets, with few exceptions, are unpaved. The newer and better-built portions are back from the bay, upon slightly higher ground. In these the streets are well paved with stone. The houses are larger; the rooms have high ceilings, and are well ventilated. But even here there are many unsanitary conditions.

The house plan in Cuba is an inheritance. It came from Old Spain three hundred years ago. The rooms open upon a court; there is but one entrance to the house; the drainage often reaches the street by an open gutter. Privy vaults are still used, and are within the dwelling. The hall serves as carriage-room and stable.

The water supply of Havana is scanty. Water is brought to the city partly in canals and open aqueducts, and partly in pipes. In many parts of the city it does not rise above the first floor. It is obtained from small streams, and its quality is not uniform.

The city is badly drained. Large areas are unsewered, especially in the older and unpaved districts. In the portions that are supplied with sewers, the drainage is imperfect. During the winter the sewage stagnates in the conduits, because of lack of water to carry it on. Where the drainage is upon the surface, the fluids dry up or are absorbed by the underlying porous rock. In the wet season the heavy rains flood the sewers, and the accumulated sewage is washed into the bay, where there is no constant current, and a tide of only 18 or 20 inches. Dilution is effected very slowly, and the contaminated waters near the stream are washed up and down along the line of the wharves. The water at a distance from the shore, out in the bay, is comparatively clean.

The navy yard is contiguous to a long line of wharves, and adjoining it is the Military Hospital, with capacity of 2,000 beds. The hospital is never entirely free from yellow fever, and through its sewage adds to the infectious material brought to the bay by the city conduits. The air along the shore is

more or less polluted. During the day the odors are less disagreeable, and there is little or no danger then; but it is not prudent for strangers to be on the wharves, even in winter, after the sun has set and the heavy dews have begun to fall.

Vessels that discharge and take on cargoes at the wharves do so at the risk of becoming infected. They often lie one, two, and sometimes three weeks with their hatches open and their holds exposed nightly to the damp, foul air. To those anchored in the clean water, off from the shore, the risk is very slight; while to vessels that arrive and leave upon the same day, as is done by the United States mail steamers running between Tampa and Havana, the risk is reduced to the minimum; they are comparatively safe, even during epidemics. A brief survey shows that the sanitary conditions of Havana are not good. Its death rate is 43 per 1,000. The disease most dreaded by strangers is yellow fever. Yet the yearly mortality from yellow fever is less than from phthisis. Yellow fever is endemic and nearly always present, but the number of cases in winter is very small. They originate almost without exception in the older and most uncleanly portions of the city, in houses almost incapable of ventilation, in rooms that have probably been infected by repeated epidemics; some cases also occur in the shipping. For the stranger in Havana the conditions are different. The best hotels are located in the most healthful parts of the city, and are furnished with modern improvements. Reasonable attention to diet and precaution against exposure to the damp night air and the hot noon-day sun render the winters perfectly safe.

The medical institutions of Havana are of interest, and I am indebted to the kindness of W. D. M. Burgess for the opportunity of seeing the hospitals of this tropical city.

Yours truly,

FRANK S. JOHNSON, M. D.

DOMESTIC CORRESPONDENCE.

PERINEPHRITIC ABSCESS, *with absence of constitutional symptoms of suppuration.* HARLOW N. ORTON, M.D.

When pus in large quantities is being formed, or exudated, we generally expect the patient to exhibit some constitutional disturbance, as rigors, elevation, temperature, etc.; but once in a while there comes under our observation an exception to this rule: a human system peculiarly prone to suppuration: In pus-formers, an anomaly like the "bleeder-families" (Hæmophilia), no cause is known, except hereditary predisposition. It is in this class of cases we are apt to find the symptoms denoting suppuration somewhat obscured. In illustration, I will relate the history of a case.

Jacob Mosden, age 24, married; tall, muscular man; occupation, switchman on the N. P. R. R. Said he had been pretty healthy since ten years of age; before that time had been troubled with large abscesses on different parts of his body.

On September 1st., 1886, he sprained his wrist, and in two or three days had cellular inflammation of the whole forearm. He was treated in the hospital at Brainerd, Minnesota, for several weeks. Five openings were made, and a large amount of pus drained off.

He called at my office on October 2nd. His arm was about well, but his general health was not very good. I prescribed tonics, and he improved rapidly. On October

15th I was called to his house, and found him down on his back again. Examination revealed acute pneumonia with consolidation of lower lobe of the right lung, from which he soon recovered, and on November 12th he was feeling well, and was about to start to work.

On November 13th I was called to his house again, and he complained of pain a little above the region of the right kidney. He had no rigors, and I found no rise of temperature. There was slight prominence of the muscles, and some tenderness a little above the region of the kidney. His urine proved to be normal on examination. My diagnosis was neuralgia, for the want of something better to call it. I prescribed a mercurial purgative; quinine, 5 grains three times a day; and an anodyne liniment for his back.

On November 16th the parts were very much swollen and reddened. He had no chills or fever. I concluded that a perinephritic abscess was being formed, and advised the continuous application of hot poultices over the swelling.

On November 19th his condition was about the same. No fluctuation could be detected thus far. Dr. J. W. Bell was called in consultation, and concurred in my diagnosis.

On November 23rd his temperature was 101, and his pulse 85. He had no chills at any time. His urine was normal, the swelling increased to about twice the size it was at the last examination, fluctuation was just perceptible. I cut down upon the abscess at the outer border of the quadratus lumborum muscle, and made a free opening of about one inch and a half. This let out over a quart of pus; a simple poultice being applied over the surface. In the next twelve hours it discharged about one pint more; no drainage

tube having been used, the incision was free enough to admit of a ready outlet for the contents, and there was no re-accumulation.

I think it was due to his peculiar diathesis that he did not exhibit some general symptoms of systemic poisoning, which that amount of pus in any part of the body generally produces.

Minneapolis, Minn.

SOCIETY REPORTS.

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.

Regular meeting, Friday, February 18, 1887.

I.—BYFORD. Slippery Elm Tents.

II.—JAGGARD. A Placenta, with Marginal Insertion of an Absolutely Short Umbilical Cord, Measuring Nine Inches in Length.

III.—JAGGARD. The Antiseptic Obstetrical Pads of Dr. H. J. Garrigues and Dr. Wm. L. Richardson.

IV.—JACKSON. Dermoid Cysts of the Ovary.

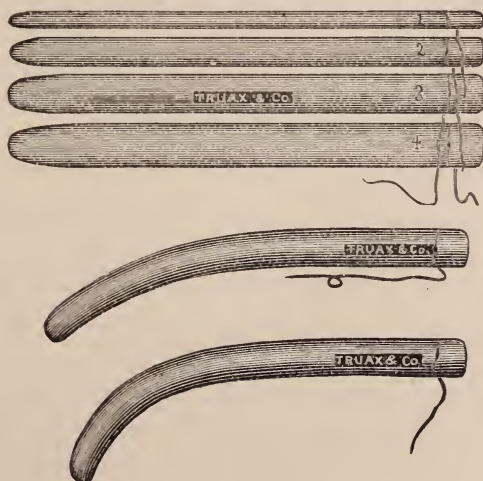
V.—FENGER. Dermoid Cysts of the Ovary.

VI.—JACKSON. Vaginal Pressure In The Treatment of Chronic Pelvic Disease.

PHILIP ADOLPHUS, M. D., in the Chair.

I.—DR. HENRY T. BYFORD made the following remarks on

THE SLIPPERY ELM TENT:



For quite a number of years, I have been using slippery elm tents in the treatment of uterine disease. Within the last few weeks, I have received from Messrs Charles Truax & Co., of this city, some improved tents made out of the compressed bark. By compression, its dilating power is increased so as to render it useful as a substitute for tupelo, sea-tangle and compressed sponge in many cases.

The characteristic of slippery elm bark is that upon being moistened a slippery substance exudes, which acts both as a lubricant to the tent, and as a protection to the mucous membrane against that injury or abrasion which sometimes follows the use of dilators of this class. Another advantage is the rapidity of its action. The tents expand sufficiently within an hour or two for the introduction of a larger size, or two or three of the same size. This may be repeated until the desired dilatation is obtained, and, since the expanded tents are both soft and slimy, with a minimum amount of injury to the parts.

A small elm tent may be introduced at the office and left for twelve or twenty-four hours and thus serve, providing it be used once or twice a week, as a mild substitute for the intra-uterine stem in cases of sterility. The patient can go home and keep quiet until she removes it by the attached string, upon the advent of severe pain, or at the end of the twenty-four hours. A glycerine tampon placed under the cervix is necessary in such cases to retain it in place.

These tents are also available as applicators, for the exuding slime carries the drug out from them instead of into them, gradually dilutes it, and thus limits its action.

As dilators and applicators in vaginitis, vaginismus, urethritis, urethral stricture, etc., they are also useful, and may be ordered of any size, shape or curve desirable.

They should be kept in a tightly covered box or bottle, as they become brittle and lose their rapid expansive power when they get too dry. It would be a good thing to dip them

in gelatine or cocoa butter when they are to be preserved for a long time.

DR. A. REEVES JACKSON: I have used slippery elm tents a great many years, and I have no doubt that the form in which they are now presented by Dr. Byford will render them more suitable for dilating purposes than heretofore. In this form, however, I have made use of them recently, and have been disappointed as regards their dilating power. Slippery elm forms a slimy mass at the expense of its substance, and while this mucilaginous mass and the mucous discharge which appears with it causes the tent to seem large, the latter does not exert much dilating power, and I was surprised to find that after moistening one of these compressed tents for several hours in water, it was very little larger than before. I have had a great deal of satisfaction in using flat pieces whittled out of the slippery elm bark, in the following manner: I use a small sponge tent, and in order to get the expansive power of that material surround it with a cordon of these slips, so as to protect the mucous membrane from injury. I think that in the combination of sponge tent and slippery elm we have the best means for tent dilatation. In this way we get the dilating power of the sponge with the protective effect of the slippery elm.

In cases in which stenosis seems to be the cause of sterility, I use non-expansive stem pessaries. My experience in the use of the intra-uterine stem has been very large, and I find, in order to effect any change of structure, that it is usually necessary to carry out the treatment for many months. I have never succeeded in changing materially and permanently the direction of the cervical canal in less than six or eight weeks, and sometimes over a year has been required. The stem may remain undisturbed for many months. This makes a great difference to the patient, who otherwise is obliged to have the instrument changed frequently. I use chiefly a very flexible soft rubber stem, which may be introduced and worn for months without irritation. It may be of

different degrees of flexibility, a very small one at first, and of very slight straightening power, and by and by another, larger and stiffer, and so on until at the end of some weeks or months the desired change is produced. I think the use of a substance that is not absorbent and does not dilate superior in these cases.

DR. H. T. BYFORD: I have had many cases of sterility of several years' standing, dating from marriage, cured by three or four or more small tents used once or twice a week. Their power is milder than that of compressed sponge, and less radical than that of the intra-uterine stem pessary. These negative qualities are the accompaniments of nearly all safe remedies. If Dr. Jackson had watched the compressed elm tent, which seemed to expand so little in several hours, he would have found that it expanded two or three times its own diameter in less than two hours, and then became smaller again by having its softer portion dissolved out. In the uterus its substance is not washed away as rapidly as in a basin.

II.—DR. W. W. JAGGARD EXHIBITED A PLACENTA WITH MARGINAL INSERTION OF AN ABSOLUTELY SHORT UMBILICAL CORD, MEASURING NINE INCHES IN LENGTH.

The specimen, placed at his disposal by Dr. Charles Caldwell, was of interest in connection with Dr. John Bartlett's paper, read at the January meeting. The absolute shortness of the cord in Dr. Caldwell's case did not constitute a mechanical hindrance to the progress of labor, although there was some slight difficulty in ligaturing the organ, after birth of the child, on account of the proximity of the navel of the child to the vulvar orifice of the mother.

III.—THE ANTISEPTIC OBSTETRICAL PADS OF DR. H. J. GARRIGUES AND DR. WM. L. RICHARDSON.

Dr. H. J. Garrigues describes the application of the pad in the following words: The well-closed vulva is covered with a pad of absorbent cotton, wrung out in the solution (1,2000). Outside of that comes a piece of oiled silk, or preferably thick

gutta percha tissue, dipped in the solution. To keep this antiseptic part of the dressing in place I use a large pad of dry absorbent cotton, and a rectangular piece of canton flannel or a square piece of unbleached muslin, half a yard in both directions, and folded diagonally like a cravat. Dr. Wm. L. Richardson substitutes absorbent scrap or waste done up in cheese-cloth for the absorbent cotton. Of course, Dr. Richardson does not insist upon the pad as essential. There is nothing peculiar about the pad except that it seems to me to be a very convenient and safe form of dressing to use. The main thing is the use of antiseptics all through the delivery, and the pad is all that is needed for the convalescence.

The important services, rendered to the profession and community, in the prophylaxis of child-bed fever, by Garrigues and Richardson, demand recognition. In the New York Maternity Hospital the mortality from sepsis—Oct. 1, 1882, Oct. 1, 1883, 429 patients,—was 6.06 per centum. Garrigues has reduced this mortality to—Oct. 1, 1885, Oct. 1, 1886, 463 patients,—.21 per centum.

In the Boston Lying-In Hospital, the mortality from sepsis, Jan. 1, 1882, Dec. 31, 1882, 288 patients—was 5.55 per centum. Richardson has reduced this mortality to—Jan. 1, 1886, Dec. 31, 1886, 373 cases,—.0 per centum.

The American woman insists upon wearing some sort of a napkin to absorb the lochia. If she wear one at all, it must be antiseptic.

IV.—DR. A. REEVES JACKSON EXHIBITED TWO DERMOID CYSTS OF THE OVARY.

Case 1. First seen by me May 27, 1884. Julia C., aged forty years, was married at twenty, had one child two years later, and no other pregnancy. Commenced menstruating at 17, and was regular after the first year. Always had good health. Five months ago, weighed 176 pounds. Three and a half months ago she took a long walk in the evening, while menstruating. After her return she had a slight chill, and

severe pelvic pain, the latter chiefly referable to the bladder, micturition frequent and painful. She seemed never to recover her health; vesical symptoms continued, appetite and nutrition failed; she became rapidly emaciated; a swelling appeared in the lower abdomen; menstruation appeared regularly and without pain. She could not walk, but rode out in a carriage. A few days before I saw her she rode out, with enjoyment, but returned a good deal fatigued and soon began to vomit. Her upper extremities moved involuntarily, and there was a complete loss of power in the lower ones. A "metaphysician" was called to see her and gave the assurance that there was no bodily ailment,—the mind only was at fault. This assurance was repeated twice a day by the Christian scientist, who on these occasions sat out of sight of the patient, the head-board of the bedstead separating them. However, the patient and her friends thought she was getting rapidly worse, and I was asked to see her. At the time of my visit she was lying in bed on her back. Her hands and arms were in constant motion; she seemed powerless to keep them still a moment; she could make no co-ordinate movements, indeed had no control whatever over either the upper or lower extremities; the latter were, however, motionless. The functions of the bladder and bowels were voluntary; the tongue dry and covered with a brownish coating; there was great thirst; pulse 110, small and almost imperceptible at the wrist. The temperature was not observed. She was very restless, and had not slept more than ten minutes at one time during the past three days. At short intervals she vomited a greenish, frothy, tenacious fluid. On examination I found the abdominal walls soft, and free from tenderness on pressure. There was a feeling of doubtful fluctuation with dullness at the sides, also in the right iliac region. The higher parts of the abdomen, as the patient lay on the back, were resonant. She died the following day, and in the evening an autopsy was made with the assistance of Drs. Brower, Danforth and E. Ingals.

On opening the abdomen we found besides other evidences of acute inflammation the exudation of perhaps a quart of pus. As this was being removed it was discovered that its source was a partially collapsed cyst, which still held about one pint of pus, and from the opening through which the pus came there protruded a few hairs. This fact settled the diagnosis. The woman had died of a ruptured dermoid cyst. The kidneys showed evidence of chronic disease. The cyst, with the ovaries and Fallopian tubes, was removed. Here I show you the opening, which was somewhat enlarged after the autopsy for the purpose of freeing the inner portion of the cyst. In addition to the hair there were also some rudimentary teeth and some plates of bones which I sent to a pathologist for examination, and received from him a photograph showing the bony constituents of the cyst. Apparently all of the dermoid tissue was centered in this space. The amount of hair was large, as you see. This was matted together in the usual manner, and has been freed from the sebaceous matter which accompanied it by shaking it in ether. This is a miniature switch made by an artist in such matters from a portion of the hair. These dermoid cysts, of which I have now seen three, possess great interest to me, pathologically. I confess to not understanding them, so I asked Prof. Fenger to be here to-night, and he promised to bring some additional specimens and to talk about them.

Case 11. Dora B., 35 years old, wife of a physician residing at Normal Park. Saw patient on February 10th 1886. Married fourteen years; two children, aged respectively 11 and 7 years; also two abortions, one three years and the other two months since. Nine months ago, while lying on her back, patient noticed a swelling the size of an orange in the right iliac region. It was soft, smooth, movable and insensitive; has slowly encroached on the opposite side; five days ago, after sneezing, experienced a sharp attack of pain in pelvis which lasted twenty-four hours, keeping her in bed. I found on examination an abdominal

tumor occupying the hypogastric and right iliac region, extending upward as high as the umbilicus, and into the left iliac fossa. On February 23d she entered my infirmary and the tumor was extirpated on the 25th. It weighed about eight pounds. There was a main cyst, containing a limpid serum, and inside of this a smaller cyst about the size of a mandarin orange, containing bone and hair. This tumor possesses an interesting feature that I have never observed before in either of the cases I have seen. It is this, there are two distinct kinds of hair, one of an auburn color, very curly, portions of which are still attached to the part, and two tufts springing from other portions of the rough, orange-rind-like skin, which are long and straight, quite free from curl, and of an entirely different color. The kinds of hair that I have seen from other specimens, while they have usually differed in color from the patient's hair, have always been uniform throughout. In the first case I saw, several years ago, the hair was 36 inches long. In that case, the part from which the bony substance and hair sprang were in one part of the tumor, occupying a small space. The patient had carried this for many years without symptoms. Finally it commenced to grow and formed a tumor sufficiently large to attract her attention. There were two cysts. The first one was a very large one, containing a semi-colloid matter very much resembling soft soap, and in great abundance. Separate and distinct from this there was a cyst not larger than a goose's egg, soft, and which could be indented readily, and when it was opened there came out a mass of hair together with other dermoid characteristics. So it seemed that the cyst which contained the fluid and made the growth perceptible was secondary, and this fact would account for the clinical fact of these patients carrying a tumor for many years without any impairment of health until an additional cyst is formed that

may present any of the characteristics of an ordinary ovarian cyst.

DR. CHRISTIAN FENGER made the following remarks on

DERMOID CYSTS OF THE OVARY,

with illustrations from specimens :

In entering upon the question of the dermoid cysts of the ovary, I wish to call attention to the two theories of their origin. According to Heschl, dermoid cysts in general owe their origin to isolated islands of the epiblast, displaced during embryonal development and located somewhere in the territory of the mesoblast. This theory of fœtal inclusion did not explain the origin of the dermoid cysts in the testicle and ovaries. It was not until His had shown that the internal genital organs are developed from a part of the embryo, the so-called "axenstrang," in which all the germinal layers are included, that we were able to understand the presence of dermoid cysts in those genital glands.

The second theory of the origin of dermoid cysts in the ovary is the view of the older authors, recently adopted by Waldeyer. Epithelial cells of the ovary, capable of transformation into the ovum with all its formative possibilities, may enter into an irregular formative activity and produce a dermoid cyst—a process almost analogous to a partheno-genetic development, as Ohlshausen states it. This second theory would only explain the origin of dermoid cysts in the ovary, and would not enable us to understand their presence in all other parts of the body. Consequently, it seems more natural to accept the Heschl-His theory, as this gives a satisfactory explanation of the origin of dermoid cysts in general, and is in conformity with Cohnheim's theory of the origin of all other new formations, from an isolated group of embryonal cells, dormant until the unknown cause of the new formation calls them into formative activity.

A dermoid cyst is always a monocyst, and if, as is seldom the case, we find more than one in the same ovary (Ohlshausen

in one case found three), we may expect to have had more than one embryonal matrix, from each of which a cyst has developed, the one independent of the other. It often appears as if a dermoid cyst of the ovary were a multiple one, but closer examination will prove that we have before us a combination of a dermoid cyst and a proliferating cystoma, or, more rarely a dermoid cyst with multiple local colloid degeneration of the stroma of the wall. Cystic transformation of the sweat glands—extensive cysts to the size of a fist—was seen in one case by Friedländer.

I shall not go any further into the subject of the dermoid cysts here, but only present to the Society three specimens removed by laparotomy within the past year, and will call attention to the points of interest illustrated by each one in particular.

Case 1. This specimen, at the time of the operation the size of a fist, now much smaller from shrinking in the alcohol, was removed from a girl of 20. There was no difficulty about the removal, but I am sorry to say that the patient died from acute sepsis thirty-six hours after the operation. Besides the sebaceous matter and the hairs, which you have already seen in Dr. Jackson's specimens, we find in dermoid cysts very commonly—in from 20 to 50 per cent. of the cases—teeth inserted in the soft dermoid wall or in pieces of bone contained in the latter, or finally, free in the contents of the sac. As a rule there are only a few teeth in a cyst; but Schnabel has seen, in a case of a girl of 13, over 100, and Autenrieth describes a case in a 22-year-old woman, in which 300 teeth were removed and as many more left in the cyst. As Ohlshausen states, it is impossible to understand the presence of such numbers of teeth without the explanation that, the same as in children, multiplication of the enamel germ takes place and a set of milk teeth are followed by a set of permanent ones. That this is more than a mere theory is proved by a specimen in Rokitansky's collection in Vienna, in which there is seen a milk tooth with the root absorbed down to the crown

by atrophy from pressure of the overlying permanent tooth. Spencer Wells, in his "Ovarian Tumors," states that he has seen one similar instance. In the specimen before us this fact is illustrated to perfection. From the soft parts on the surface of this little piece of bone, in the wall of the cyst, you see attached a tooth corresponding in shape and size exactly to a temporary incisor of the upper jaw. I have made an incision through the gum, if we may use that expression, and, as you see, the root is absorbed almost down to the crown. When we turn this milk-tooth to the side, we see the crown of the overlying tooth. This is larger, and has the exact shape of the corresponding permanent incisor.

Case 2. The next specimen is a very large dermoid cyst from the left ovary of a woman at 50. It filled the whole abdominal cavity up into the cardia and gave the exact symptoms of a proliferating cystoma or multiple cyst, as there were felt, besides the main cavity, harder, lobulated portions, which I supposed to be smaller and more tense cysts. As she gave the history of a cyst which ruptured when she was 14 years old, and caused several months of suffering from peritoneal symptoms and then disappeared, not to return until after the age of 45, I thought that a dermoid cyst was out of the question. At the operation, which was difficult on account of many adhesions and the nature of the contents of the cyst, I found this very large dermoid cyst, containing—(a) Three or four gallons of a brownish fluid, in which floated hundreds of thousands of round, yellowish-white, small bodies, the size of a hemp-seed up to a pea. I pass round a sample of them in these two glasses. These bodies are soft, have the consistency of butter, and are found under the microscope to consist of irregular masses of amorphous fat, with pavement epithelial cells interspersed here and there, single or in groups.

(b) A yellowish-white, butter-like mass the same as the small bodies if matted together, filling up entirely some of the chambers of the cyst, with no fluid mixed with it. This peculiar arrangement of the fat is rare. Rokitsansky saw in

a cyst 70 bodies the size of a hazel-nut and very many the size of a pea swimming in a brownish fluid. Routh, according to Spencer Wells, saw a similar case, the balls showing under the microscope concentric layers of amorphous fat around a nucleus of cholesterine crystals. Fraenkel, cited by Ohlshausen, found the whole contents of a dermoid cyst to be numerous hard, mostly round or irregular balls, consisting of amorphous fat, fatty degenerated epithelial cells and hairs. The shape of the cyst is peculiar, inasmuch as it gives the appearance of a conglomeration of cysts. But close inspection shows that all of these communicate with each other so as to form one large though very irregular cavity. Thus in reality we have before us a monocyst, characteristic of the dermoids, as I mentioned before. In the wall, however, we find a number of smaller cysts the size of a pea to a hazel-nut—these do not contain the same fatty material as the main cyst, but a colloid mass, and are due to secondary colloid degeneration in the wall of the latter. The inner surface of the large dermoid cyst shows in some places irregular masses of bone imbedded in the wall, and further, as in Dr. Jackson's cases, the following condition: We do not find typical skin, with hairs, sebaceous glands, epidermis, and so on, everywhere on the inside. This is found only on part of it, forming one or several irregular islands. The remainder of the cyst wall is smooth, has the characteristics of an ordinary cystoma, with a single layer of epithelial, cuboid, or cylindrical cells. It may be that the dermoid portion of the wall secretes the fat and the cystoid portion mainly a serous or albuminous fluid. Movements of a cyst containing at the same time a thin serous fluid and sebaceous matter might (Rokitansky) shape this suspended fat into the small round masses just the same as butter when in the process of churning. However, if this was the right explanation, it appears that this peculiar formation is seen only in very exceptional cases. The right

ovary was transformed into a dermoid cyst the size of an orange. Notwithstanding the dermoid cysts on both sides, the woman had a number of children, the youngest 16 years old at the time of the operation. The patient never rallied from the shock of the operation, and died 12 hours afterward.

Case III. The third specimen is a dermoid cyst taken from a girl of 23. It was noticed for about one year and a half before the operation, at which time it was one and a half times as large as a child's head. There was no particular difficulty about getting it out. When I opened the abdomen and came on the cyst it was transparent, so that I did not think it was a dermoid cyst, and I inserted a K  berles trocar, which of course we should never do in dermoid cysts if we can help it. Immediately the trocar was stopped up by what I found later was a mass of hairs and sebaceous matter, so that I had some difficulty in keeping the abdominal cavity clean. However, she recovered without any greater trouble than a little abscess in the abdominal wall from one of the sutures.

Before demonstrating the specimen I wish to make a few remarks in regard to malignancy of dermoid cysts. As a rule we regard a dermoid cyst as a benignant new formation, and a malignant character is here a rather rare exception. We make a distinction between malignancy of a dermoid cyst, *per se*, and malignancy from a combination of dermoid cysts with carcinoma or sarcoma. The malignancy of a dermoid cyst as such is very rarely seen. Kolaczek relates a case, operated upon by Martini, in which besides a common dermoid cyst with a perfectly smooth surface, there was found in the walls of the peritoneal cavity small nodules in great number, the size of a millet seed and of a yellowish color. Many of these little tumors had a light-colored hair sticking out from their centers into the peritoneal cavity. Similar were seen in a case operated upon by Billroth reported by Fraenkel.

Malignancy of a dermoid cyst from combination with

carcinoma, sarcoma and myoma: These tumors, originating in the tissues of the cyst, are not so very seldom met with, and have been observed more commonly of late years because a more minute microscopical examination is made now than in former years. Ohlshausen mentions as bearing upon this subject a statement of Doran that he had seen in several instances malignant tumors of the abdominal cavity follow extirpation of dermoid cysts. On examining the main wall of the specimen before us, we find on the dermoid island with its hairs and a plate of bone in the wall, the following unusual formations:

(a) A large black mole: It is of irregular lobulated shape, two by three inches in diameter, slightly elevated over the surrounding skin and has a velvety, uneven surface, without hairs. Microscopic examination shows the common structure of pigmented moles, which, as you will remember, has a great similarity to that of a sarcoma.

(b) A papilloma the size of a pea: You will see it outside of the mole on the skin over the bony mass. It is surrounded by a thick wrinkled skin beset with hairs. On transverse section it shows a solid center covered with the pointed excrescences resembling exactly a large wart with long papillæ, as we sometimes find them on the skin of the hand. A detailed microscopic examination and description of all the specimens is not as yet finished, but I intend to give it in a future discussion. It is sufficient, however, here to call attention to the important bearing the two benignant new formations found in this cyst have upon the malignancy just spoken of. It is well known that moles often furnish the soil for sarcomas, and that warts or papillomas for years benignant, sometimes all of a sudden commence to grow because they are transformed into a carcinoma or a sarcoma. The rapidity with which a dermoid cyst sometimes will grow involves a great nutritive hyperactivity. I can understand that this, in its turbulent way of forming tissues without an aetiological

object, could cause the physiological resistance to disappear and thus open up the gates for malignant tumors.

IV.—A. REEVES JACKSON read the following paper, entitled :

VAGINAL PRESSURE IN THE TREATMENT OF CHRONIC PELVIC DISEASE.

The brief paper which I have to present this evening was suggested by some remarks with which the society was favored at its last meeting, by Dr. Etheridge, entitled a "Preliminary Note on Antiseptic Tamponnement of the Vagina in the Treatment of Pelvic Inflammation."

It would have afforded me pleasure to endorse the treatment which was advocated at that time, had an opportunity been given for so doing, for I have had occasion to make frequent use of it, and to learn its advantages, during the past eight or nine years.

My attention was first called to this subject by reading a paper which was published by Dr. V. H. Taliaferro, of Atlanta, Ga., in 1878, on "The Application of Pressure in Diseases of the Uterus," in which the writer presented many facts and arguments to prove the great therapeutic efficacy of the principle of pressure as applied to the treatment of diseases of the uterus and other pelvic organs, which are characterized by habitual passive congestion and its results, namely, uterine displacements, enlargement, relaxation, cervical erosions, menstrual disorders, etc.

The method consisted in firmly packing the vagina with sheep's-wool made antiseptic with carbolic acid, with the aid of a Sim's speculum, the patient being in the knee-chest posture.

At first Dr. Taliaferro used cotton pledgets, saturated with glycerine; but, observing that the cotton packed quite hard, he very soon substituted wool because of its resiliency, a quality which it was found to retain under pressure and moisture.

In illustration of the results of this method of treatment he

detailed a number of instructive cases in which it had been used by him.

In one of these the patient was suffering from supra-vaginal elongation of the uterine cervix, complicated with complete cystocele and vaginal eversion, the involuted parts protruding from the vulva and forming a tumor of considerable size. The uterine canal measured six inches. The parts were restored and the vagina packed with cotton, a process which was repeated every two or three days for a fortnight, at the end of which time the depth of the uterus was reduced to three inches. Other symptoms were correspondingly improved. The patient, who had been only able to drag herself along with pain and difficulty, could, after the first packing, move with rapidity and comfort.

She was subsequently cured by a plastic operation on the vagina.

A number of other cases, some of them furnishing results almost equally striking, were detailed by the writer.

Dr. T. strongly emphasized the importance of applying the tampon with the patient in Sim's position, in order that the vaginal canal should be distended and elongated to its utmost capacity. He further advised that the first few pieces composing the tampon should be of cotton, for the reason that a greater amount of glycerine may be incorporated with that substance than with wool. It was claimed that the therapeutic effects of this treatment are as follows:

1. It diminishes blood supply and nutrition.
2. It promotes absorption.
3. It removes hyperplastic tissue by retrograde metamorphosis.
4. It diminishes nervous action.
5. It rectifies malpositions.

I was much impressed by the stated results of the treatment, and determined to give it a trial. It seemed to promise a valuable substitute in some of the objectionable and uncertain methods of local treatment then and now in vogue, such

as cauterization, local blood-letting, tents, intra-uterine medication, iodine painting, hot douches, etc.

Since then I have used it in many cases of chronic pelvic disease, and am able to corroborate the favorable statements that have been made concerning its efficacy.

Dr. P. F. Mundè, who gives an abstract of Dr. Taliaferro's paper in his "Minor Surgical Gynæcology," edition of 1885, says: "Of the value of this steady elastic pressure and support in reducing the size of an engorged hyperplastic or (better still) subinvolted uterus, and restoring the normal circulation to the edematous and congested pelvic cellular tissue, I have no doubt whatever; neither of the potent alterative effect of this pressure on old peritonitic or cellulitic exudations and adhesions."

I had not applied this dressing many times before I observed occasionally on removing the tampon that on various parts of the vaginal wall, and also around the os uteri, erosions appeared, sometimes bleeding slightly on exposure. I attributed this to the fact that the packing had either been too firmly or unequally placed.

In cases of moderate laceration of the cervix uteri, this accident is especially likely to occur if the packing is so applied about the vaginal portion in such a manner as to widely open the os uteri. Hence, in all such cases I endeavor to at first push the uterus upward with a single pledget, and then to pack the entire vaginal fornix about it so as to press the cervical labia together as much as possible.

When any part of the mucous membrane appears soft and succulent, I have found advantage in combining with the glycerine a solution of tannin or alum.

The contact of glycerine is not equally well borne by all vaginas, and in a few cases I have not been able to persist in its use on account of the irritation it caused. In these cases I find an excellent substitute in vaseline, which, although it does not produce the peculiar serous drain which comes with the use of glycerine, is unirritating, and makes possible the

employment of the pressure, which is the more important element in the treatment.

When I first began to use this pressure treatment I chose carded wool, in accordance with the suggestion of Dr. Taliaferro. But it was difficult to obtain a well prepared article, and next to impossible to incorporate any considerable quantity of glycerine with it. I was obliged to use cotton for the upper part of the vagina. I next tried successively oakum and jute.

These substances were elastic—especially the former—and also antiseptic: the former containing tar, and the latter carbolic acid. However, since sheep's-wool has been so prepared as to be free from fatty matter, and is comparatively absorbent of water and glycerine, it more completely and perfectly meets the indications than any of the other substances I have named.

As regards the form of the tampon, I have used it both in single and multiple pieces, and unhesitatingly give preference to the latter in many cases. It is very important that the vagina be packed in such a way as to insure an equable pressure against every part. This cannot be so certainly done with a tampon made from a single piece, or a few large ones as with a number of smaller sizes. When moistened the pieces should not exceed a walnut in size. Time may be saved, however, and the object accomplished, by using a single piece of wool for the lower half of the vagina.

Commonly, the only medication I have used with the tampon besides the glycerine or vaseline, has been the occasional addition of tannin or alum. But when, for any reason, I have wished to have the dressing remain longer than two days, I have, after saturating the separate pledgets, rolled them in boracic acid so as to take up two or three drams of the latter.

The cases in which I have found this method of treatment especially beneficial are those which are characterized by soft engorgement—such as the earlier stages of subinvolution, with or without cervical laceration. In these cases I have

seen more marked change effected in two weeks than is commonly seen in two months—or more than is seen at all sometimes—under the use of hot water douches, however perfectly and assiduously the latter may be used.

Permit a slight digression: Without wishing to disparage in the least the use of hot-water irrigations in the treatment of chronic pelvic inflammations, I desire to say that for some years I have held the opinion that their efficacy, great as it is, has been overrated. Indeed, they have been so eulogized that perhaps we have expected more from them than was reasonable. One serious drawback to their usefulness arises from the fact that the sittings cannot be continued usually for a sufficiently long time. If it were practicable to keep a stream of hot water playing against an inflamed or engorged tissue for thirty hours rather than thirty minutes, we should doubtless obtain more prompt and more permanent results. But as the hot-water douche is usually employed, its effects in constricting the over-full vessels are of short duration. I have seen a turgid, purplish cervix subjected to a hot stream for forty minutes; at the end of the time it was pale and shrunken; at the end of another hour, the patient continuing meanwhile on her back, I have found the same cervix as turgid and as purple as before.

Now, just on this account, a manifest and very great advantage may be urged in favor of a means of treatment which, equally with the hot-water douche, has power to unload the vessels of their stagnant contents, and which may be continued day after day and week after week, without remission and without reaction. Such a means is, I believe, to be found in this persistent pelvic pressure and tissue drainage.

Were it needful I could cite many cases illustrative of the beneficial effects of this treatment, but will content myself with but two.

CASE I. A married woman, 34 years of age, had two children at term, and subsequently a miscarriage at the fifth month. After this latter event menstruation became more profuse and the periods were protracted. At the end of two years her general health was greatly impaired and she was markedly anæmic. Ordinary remedies were used without success. At my suggestion, her physician curetted the interior of the uterus, and then swabbed the cavity with Churchill's solution of iodine. Febrile symptoms followed, and lasted a week. Temporarily there was improvement as

regarded the hemorrhage ; but in three months she was worse than before, and rarely free from a bloody discharge. It was then determined that I should repeat the curretting. Remembering the inflammatory sequel to the previous operation, I was moved to pack the vagina a few times as a preparatory measure. She was flowing when the first packing was placed. When the latter was removed at the end of forty-eight hours, the only appearance of blood was a slight staining of that portion of the tampon which had been pressed against the os uteri. Another tampon, larger than the first, was placed, carrying the uterus as high as possible in the pelvis. On its removal two days later no blood at all was perceptible. This treatment was continued three weeks, combined with suitable medicinal and hygienic means, with the result of permanently stopping the hemorrhage, and the ultimate restoration of the patient's health.

Dr. Mundé, in speaking of this means of treatment in connection with another class of cases, uses these words : " When the retro-displaced fundus uteri is adherent, these daily emollient and hydrogogue tampons may in time, by their combined pressure and alterative action, bring about the absorption, or at least stretching, of the adhesion, and permit a replacement of the organ." I submit a case in point.

Mrs. J., aged 24 years ; had several induced abortions ; no child at term. Had been treated for displacement by pessary, with apparent benefit. After a time the symptoms returned, and the physician introduced a larger instrument. It caused pain at once, and in a few hours there was a chill and then rise of temperature. I saw the patient next day and advised the removal of the instrument, which was taken away. It was a very large one. A sharp attack of inflammation ran its course in ten days. No abscess formed. A few weeks later I found the uterus retroverted and the fundus immovably fixed by adhesions in its mal-position. At the request of the attending physician I then took charge of the patient. The treatment consisted wholly in the use of tampons of cotton with glycerine and boracic acid. The pledgets were small at first, and were placed in the posterior vaginal fornix, pressed into position with as much force as the patient could readily bear. The pledgets were increased in size and others were placed in front of the cervix. The vagina was packed below more and more fully and firmly each time with wool, until the canal was distended to its utmost capacity. At first the dressing

was renewed daily, then every two days. At the end of two months the uterus was thoroughly replaceable, all tenderness had disappeared, and no evidence remained of the former presence of adhesions.

DISCUSSION.

DR. PHILIP ADOLPHUS: In the treatment of chronic pelvic disease by vaginal pressure, we may avail ourselves of the two methods of massage and columning the vagina. The latter has a much wider range in the treatment of pelvic disease than massage.

These methods have been hitherto applied to the removal of congestions, exudates, and recent slight adhesions of the serous tissues in the pelvis, which were within reach of vaginal pressure.

We had often thought that we had succeeded in removing by them old adhesions and bands, when merely recent effusions surrounding old deposits had become absorbed, just as nature will, without our aid, absorb a large pelvic effusion in a recent pelvic inflammation.

Neither method, however, can cause the removal of old cicatricial bands, firm adhesions and imbedded organs; and both are contra-indicated when inflammation of the serous tissues exists.

But where dilatation and congestion are present, and comparatively recent adventitious and hyperplastic tissues are to be removed, the stimulant and alterative influence of pressure on the pelvic vessels induces absorption by either of these methods.

The treatment by massage will not, in future, be resorted to as often as formerly; for it is inefficient in its methods, dangerous in its tendency, as well as troublesome and indelicate to the physician and patient.

The sole object of massage is to induce sufficient irritation in order to effect absorption. But the tamponnement of the vagina does much more than massage.

It supports and relaxes tense ligaments; elevates the movable or adherent vagina, bladder, uterus and ovaries, provided they are not adherent to the pelvic walls; depletes congested, inflamed and subinvolted organs; overcomes spasm and irritation, and induces physiological rest in the parts.

Tamponnement per vaginam is therefore indicated in all cases where pelvic tenderness is present which is not due to an

acute attack, or where absorption is needed; it is efficient in cases of mal-position and prolapse of the uterus, ovaries, ligaments and vagina, where elevation of the organs and mechanical support are required, preparatory to the use of pessaries, or where these cannot be borne.

Columning the vagina is effected in the knee-elbow position by means of Sim's or Simon's speculum. A large pinch of iodoform, boric acid or salicylic acid is first applied to the cervix, a few tampons saturated with glycerine are laid in the vault of the vagina, and then ordinary cotton wool, absorbent wool, or iodoform gauze, is systematically packed into the vagina, to remain there for three or four days. This packing is to be renewed until the effects are produced which the practitioner desires. The patient is not obliged to remain in bed, and the pelvic, sacral and hypogastric pains, together with urethral irritability, are frequently relieved in a short time by this method, which is altogether a more successful, cleanly and decent mode of procedure than that of massage.

DR. JAMES H. ETHERIDGE: I have nothing additional to say except that the continued use of this method in many selected cases has produced most desirable results. But I would protest most emphatically against being understood as recommending it for every trouble of a pelvic nature. For the class of cases Dr. Jackson has enumerated I think it a vastly superior treatment. I was much impressed with the article of Dr. Taliaferro. He tampons the uterus cavity, with the patient in the genu-pectoral position, using a speculum of his own device, which is flanged at the lower end so as to separate the posterior portion of the vaginal orifice, the cervix being held steadily down by the vulsellum, and with a long-toothed forceps he pushes the cotton into the uterine cavity. The true explanation of the benefit which comes from this treatment is, that by elevating the uterus the pressure from its great weight is relieved. There is a mechanical obstruction to the return of blood from the uterus, and what is done by the tampon is to push up the uterus and permit its decongestion, and along with that comes the improved nutrition of the organ, and the reflex symptoms in the way of pain, menstrual disturbances and the like readily disappear. I cannot tell exactly how I was put upon this method of treatment; I don't claim it as anything new. Several years ago Dr. Bozemann of New York tamponned the vagina, calling it "columning the vagina." He spoke of several cases of positive elongation

of the posterior wall of the vagina with this continual pressure. His paper was published in full in the transactions of the American Gynæcological Society.

DR. H. T. BYFORD: I agree with Dr. Etheridge, that any pressure that can be made by the vaginal pack could not cause the relief. The benefit of pressure upon enlarged veins in any part of the body, as in the leg or testicle, is only temporary unless some other curative influence be added. Nor do I think that a low position of the uterus causes the venous stasis, for this is not found in all cases, and often is found when the uterus is held high up by contracted and indurated sacro-uterine ligaments. The veins are large, long and tortuous, and are made to admit of considerable change in position of the uterus in almost any direction. The rapid improvement comes from the support to the uterus, and sometimes also to the ovaries, taking away the traction upon inflamed and indurated ligaments, and thus promoting the absorption of exudations that either diminish the caliber of the veins or prevent them from accommodating themselves to the position of the uterus and its anexa. This relief of strain and promotion of absorption in the pelvic tissues is the great remedy for subinvolution in the subacute stage, the same as rest in bed is the remedy in its acute stage, viz.: soon after labor. It is in the subacute stage of pelvic disease that the vaginal pack finds its great sphere of usefulness. Dr. Jackson's second case serves as a good illustration. When the inflammation and induration are in the sacro-uterine ligaments, two or three soft glycerine tampons, made of the best ordinary cotton batting (not the absorbent), placed under and in front of the cervix every second day at the office, and left till the next night, will often relieve the traction and bring about rapid improvement. When it becomes necessary to apply the complete pack, we will get the best effects by so placing the cotton and cotton wool as to relieve the traction upon tender parts, which should be found beforehand by a careful diagnosis.

DR. JACKSON: I think the subject has been very thoroughly discussed and the principle of the treatment clearly illustrated. The important fact is that it is not a difficult method of treatment; that it is efficacious there can be no doubt—the clinical facts justify this assertion. The method pursued by Dr. Bozemann seems to me to be peculiarly objectionable. Strapping

a woman onto a machine for the purpose of packing the vagina, seems both irksome and unnecessary. I am very glad there is such unanimity of opinion in regard to the clinical efficacy of this method of treatment.

W. W. JAGGARD, M.D., *Editor*.

2330 Indiana Avenue.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, February 21st, 1887.—THE PRESIDENT, E. J. DOERING, M. D., IN THE CHAIR.

The discussion of PROFESSOR J. A. ROBISON'S paper on

CLIMATIC TREATMENT OF DISEASE

being in order,

PROFESSOR JOSEPH P. ROSS said he was called upon to open the discussion of the treatment by climate of consumption, one of the most frequent and fatal diseases that afflict our race. Statisticians tell us that more than three million persons die annually of this disease. Dr. G. B. Wood, in his "Practice of Medicine," states that north of the tropics one-sixth of all deaths are caused by this disease. Upon consulting Zcimssen he found that the author of the article on consumption makes the statement that two-sevenths of all the deaths in the world are caused by pulmonary tuberculosis. Since this disease is so general, and since treatment by medicine does not accomplish as much as hygiene, which includes climatic treatment, it is very important that we discuss the subject.

In the excellent paper read by Dr. Robison at the last meeting, he quoted the opinions of three leading medical men with reference to the kind of climate which is appropriate for the treatment of consumption, and Professor Ross thought their views with reference to the appropriate climate, which were adopted in the paper, are correct. From his study and observation of the effects of various climates upon tubercular patients, he believed that, although one cannot say any particular climate is suitable for every case, one can say that for cases in general the air should be pure and dry;

should be neither too hot nor cold ; should not be variable, and should be somewhat rarified ; for instance, such air as would exist at an altitude of from 1,000 to 3,000 feet above the sea-level ; and lastly, the air should be invigorating, because of its containing an additional element, probably ozone. It may be that this invigorating quality is due to an electrical condition of the air, but it is more likely due to ozone. He waived the discussion of each of these elements appropriate to a good atmosphere, but spoke more particularly of different localities that are known as health-resorts, and stated what facts his experience and study had taught him concerning these localities.

At one time the eyes of the medical profession were turned to Colorado as offering the best promises for a good climate for tubercular patients. It was thought that in Colorado we have a climate where there is pure, bracing air, with an altitude high enough to secure rarification of the air sufficient to invigorate the respiratory functions. He had observed this fact : that while the patients seem to improve in their general health, the exudate increases rapidly, and if softening occurs it takes place also very rapidly. This is probably due to the high altitude. He had also observed that in the high altitudes patients who have a tendency toward hemorrhages are apt to be unfavorably affected in this way. He considers that in the later stages of tuberculosis, the high mountains of Colorado and New Mexico are objectionable. For this reason only carefully selected cases are advised to go to Denver, Colorado Springs, Pueblo, Raton Pass, Las Vegas, Santa Fe and Albuquerque.

The advantages and the disadvantages of San Antonio, Texas, as a health-resort, were considered. During the winter some seem to improve, but a large number of them complain that the sudden cold winds from the north, or northers, as they are called, cause severe attacks of bronchitis or pneumonia. In the spring or summer there is a great deal of malaria. But barring the northers and malaria, a great many

cases do very well there, and during the months of December and January it seems to be a very good climate for consumptives. But during the summer months the heat has too depressing an influence on the patients.

All things considered, he believes the best climate and opportunities for treating this disease are found in California. With reference to Southern California, probably for two months of the year it would be desirable to send patients down to Los Angeles, Riverside or San Diego; but taking that climate all the year round it is not the place, because the air does not contain the qualities that should make it essentially invigorating; it is not light enough, and seems to lack ozone. Patients affected with ordinary catarrh will do well there, but consumptive patients do not improve in Southern California all the year round. If one could live in the southern climate for two months in the year, and then go up into the Sacramento valley, where one can find almost any altitude, it would probably be the best climate for cases of consumption in general on the continent. One objection to sending patients there from Chicago is the distance.

Study of the Gulf coast and Florida led him to the conclusion that the climate of Florida is a failure for the treatment of consumption, for this reason: patients go there having a cough, being debilitated by disease, and the air is balmy, and they say, what a beautiful air! They do not cough so much, but they sit around and take no exercise, for there is nothing to cause them to take active exercise. There is something lacking in the air: it does not brace one up; he had never seen a patient there that improved the least from day to day. The atmosphere is warm and moist, and very depressing, while malaria abounds.

With reference to the regions mentioned in Professor Robison's paper—viz.: the mountains of Tennessee, Georgia and North Carolina—he said he fully agreed with the remarks made by the author, and thought the climate of these regions is suitable for the treatment of consumption. It is well to

consider the favorable features of this mountainous region of Tennessee, Georgia and North Carolina, which is called the Switzerland of America, and to contrast the climate of that region with that of Chicago at the time of the year when our climate is bad. It is from January until June that our climate is bad—the latter part of winter and spring. Now, it is a fact that at an altitude of 6,000 feet above the sea level, as at Denver and Colorado Springs, the air is too cold; and when we have bad weather here, one will find bad weather in Colorado, extending from January until near June. During these months when our climate is bad, we must consider the question of sending patients away from Chicago. In Great Britain and the north of Europe they consider that the bad time of the year is from January to June, and they send patients down where the Alps dip into the Mediterrean Sea and where they find the climate mild—about the same conditions of climate that we have in some of our Southern States. All the rest of the year we have a good climate; in fall, summer and early winter, the Chicago climate is not bad.

In conclusion he said his reasons for recommending the South as a place to which to send consumptives are:

1. When the climate in Chicago is unsuited for consumptive patients, the climate is mild and favorable in the Southern States.

2. The nearness of Chattanooga, Marietta and Asheville to Chicago and the North, so that the trip can be made in a few hours, recommends it.

3. The results of a limited experience have convinced him that his patients do as well, if not better, at these points than at any other.

DR. J. J. M. ANGEAR said: He endorsed nearly all that Professor Ross has said, and most of the paper of Professor Robison. A few points in the paper he thought might be amplified and supplemented profitably. The author speaks of home comforts, pleasing scenery and congenial society,

and these three things demand a good deal of attention. We are all aware of the fact that there is some truth in the old saying: "Laugh and get fat." It is an impossibility for any one to do well who is constantly under a cloud; it has a depressing influence upon the mind, it matters not how good the climate. The physician advises his patient to leave home for a more salubrious climate, and under the pressure of circumstances he takes his departure. It is probable that there would be more cheerfulness at home than away among strangers, no matter how desirable these places may seem. These things must be taken into consideration. He has believed for a number of years that the benefit of our watering places was not so much from the water, but because the patient leaves home, leaves business cares, and has a gay, good time—sadness of heart has melted away. That patient can "laugh and get fat." There is something here for us to study: the tranquility and peace of mind, so that nutrition can go on undisturbed.

He said the idea is advanced in the paper that in good environments bacteria cannot thrive. If they cannot thrive they are not able to do their mischief. There may be something in this which we do not understand. We do not believe that laughter will ever get rid of a tapeworm; we do not believe that cheerful society and good music will cast out or put a check upon the ravages of trichinæ: but we are compelled by force of circumstances to acknowledge the truthfulness of the assertion that good environments will check, if not destroy, the influence of microbes, and if we are convinced that microbes are really the cause of tuberculosis, then we want to place the patient in such an environment as will check, if not destroy their ravages. It may be wise for us to select pure air, the right temperature, and sunshine; but unless the patient can carry contentment with him, sunshine in his soul, it would be better for him to stay at home: and unless he has abundant means, so

that he may not feel pinched and can enter into the gaieties of the place, he had better stay at home.

DR. J. G. KIERNAN said: The point raised by Dr. Angear, as to the mental condition having an influence on the progress of the disease, is valid as to principle, but he has ignored the mental peculiarities of the consumptive patient. Hope has been known as a characteristic for a long time, but the suspicious element is less known and as frequently characteristic. In removing a patient who has tuberculosis from the surroundings of his home we are doing the best possible for that patient, from a moral standpoint.

PROFESSOR R. G. BOGUE said: Some years ago it was his fortune to spend a few years in the South, the greater portion of them in the mountain regions of Tennessee, Northern Alabama and Northern Georgia. All of one winter, about six months, he spent in Chattanooga; and he could bear testimony to the wholesomeness of the entire region for the greater part of the year, and in the mountain regions for all of the year; in the valleys there are about two months in the summer season when malaria is quite prevalent, but up in the mountains it is eminently a healthy country. The air is pure, the water is good, the scenery is magnificent; there is everything to entertain and amuse one, so far as scenery is concerned. The region of Chattanooga is peculiar and delightful from the variety of the mountain and valley scenery. The entire year, or very nearly so, it is practicable for people to be out of doors. During the latter part of December, all of January, and the early part of February, the temperature is subject to considerable variation; it is reasonably cold and there are some storms, but after the middle of February, with the exception of now and then a short storm, the climate is delightful, extending thus through the whole summer. The altitude in the mountain region is such as to render the summer not oppressive. He believed that for the colder and stormy portion of the winter

the region south of Atlanta might be better for consumptive patients than north of Atlanta. Macon, and that part of Georgia fifty miles north of the coast, and extending through Georgia and Alabama to the region of Mobile, are good localities. Quite early in the spring one can come northward. Coming north of that range of mountains into the valley this side of North Atlanta, to Marietta, one finds a delightful spring climate, with a great deal of sunshine, and a forest filled with bloom for two months in the spring; everything, as far as climate and scenery are concerned, to delight even a sick person. There is much to recommend the region of Chattanooga to invalids, and if they are not satisfied with Chattanooga or the vicinity, there are other points, Marietta, Atlanta, and north of the Tennessee river, the region of Huntsville, and north from that as far as Nashville; so that consumptive patients or invalids may be in a mild invigorating temperature, really all the year, in the space of a couple of hundred miles.

PROFESSOR WM. T. BELFIELD presented a

PROSTATIC MYOMA—A SO-CALLED "MIDDLE LOBE" OF THE
HYPERTROPHIED PROSTATE—REMOVED BY
SUPRA-PUBIC PROSTATOTOMY.

The patient, a man 73 years old, had for several years experienced difficulty in urination, and for nearly a year had been practically dependent upon his catheter. There was found symmetrical enlargement of the prostate per rectum, dilatation and catarrh of the bladder, and an impediment at the bladder neck to the entrance of rigid instruments. Exploration of the bladder by supra-pubic incision revealed a solid prostatic outgrowth, or "middle lobe," as large as a hazel nut and of flattened pear-shape, springing by a short, narrow pedicle from the vesical orifice. The pedicle was twisted off with forceps and the growth removed. Recovery was uninterrupted, the fistula closing entirely on the seventeenth day. Patient has since urinated freely without a catheter, and can now almost completely empty the bladder; the cystitis has subsided.

PROFESSOR BELFIELD also presented specimens of

MUCOUS CASTS FROM A CASE OF MEMBRANOUS ENTERITIS.

The patient was a nervous, rather hysterical lady about 35 years of age, who for several years had at intervals suffered from severe intestinal colics, followed in a day or two by diarrhœa with the expulsion of these casts; for several days thereafter much soreness and tenderness of the abdomen was experienced. The casts appear under the microscope as amorphous pseudo membrane enclosing cast-off epithelial cells. They are said by DaCosta to give the chemical reactions of mucin. This patient improved materially under small doses of bichloride of mercury and pills of iron, arsenic and strychnine.

He also exhibited a

FOREIGN BODY FROM THE BLADDER;

a roll of chewing-gum, two inches long, partially encrusted with urinary salts, which had been removed from the bladder of a young man by Professor T. W. Miller. The patient, suspecting he had a stricture, had explored his urethra with a well-masticated roll of chewing-gum stuck upon the end of a broom-straw. When the straw was withdrawn the gum had disappeared. Acute cystitis ensued. Attempts to detect and extract the gum with a small lithotrite having failed, perineal urethrotomy was performed and the gum extracted by the finger. The patient entirely recovered in two weeks.

He also presented a

FRAGMENT OF THE OCCIPITAL BONE

of irregular quadrilateral shape, three inches long and two and one-fourth inches broad, its longest edge serrated for articulation with the right parietal bone. The fragment was removed by him from a young man who had suffered a compound comminuted fracture of the skull, by a blow with a sharp iron instrument which had penetrated the brain to depth of over an inch. On admission to the Cook County Hospital, over a teaspoonful of brain substance was found among the hair; the scalp and dura mater were badly lacerated. The fragments of bone were removed, the wounds in the brain substance cleansed and drained, and the scalp wound sewed up. After the fourth day the temperature remained normal; the wound was entirely healed in a month, the dressing having been

changed four times during that period. The scalp is depressed over the seat of fracture, and still pulsates with the brain.

He then also presented a specimen of

INTESTINE COVERED WITH MILIARY TUBERCLES, DEATH
HAVING RESULTED FROM MILIARY MENINGITIS.

This specimen is a piece of intestine the peritoneal covering of which is full of miliary tubercles. The patient was a girl about twenty years old, who had always had excellent health. Three sisters are still living, and neither they nor their parents, nor any of their relatives so far as known, have ever shown symptoms of tuberculosis. The present generation are examples of perfect health, and this girl was in many respects apparently the healthiest of all of them. Until five days before her death her health was as usual; then she complained of feeling ill one evening; her head ached; she vomited, without apparent cause; she lay down, drank a cup of tea and felt all right. The same thing happened the next day, and she complained of extreme headache. On the third day, with the exception of severe headache and vomiting without cause, she maintained her usual health. The evening before her death she was at a theater, and came home about 11 o'clock and went to bed with one of her sisters. During the night the sister was several times awakened by the extraordinary breathing of the patient, which was very hard and loud. She shook her, and the abnormal breathing ceased. In the morning it was found impossible to wake her; she was breathing very deeply and slowly, and could not be aroused. Physicians were summoned and all of them pronounced it a case of opium-poisoning. The symptoms as related to me were stertorous breathing, sometimes as slow as four or five a minute, contracted pupils, a suggestion of strabismus, and rather warm surface. The pulse was remarkably good, about 80, similar to the pulse of a healthy person; the skin was not moist and clammy. The physicians instituted the usual measures for opium-poisoning; they gave mustard at once, and as soon as a tube could be procured pumped out the stomach. They injected minute doses of atropine hypodermically; the patient received about a fortieth of a grain in three injections. The breathing improved very much after these

injections, coming up to twelve and fifteen per minute; the pulse also quickened; suddenly the pulse flickered and went out, and the breathing stopped.

On the following day, with the Assistant County Physician, he made a post-mortem examination, which included the head and abdominal cavity only. The brain was not hyperæmic, there was no venous congestion, the pupils were widely dilated; the membranes of the brain were adherent to the brain substance, and on stripping them off and examining them there were found numerous miliary tubercles. On opening the abdominal cavity the intestine bulged out, its surface thickly studded with miliary tubercles; there was extreme tuberculosis of the peritoneum, and the mesenteric glands were large and cheesy; there was a ruptured cyst of the right ovary, about as large as a fist. That the rupture was ante-mortem was evident from the fact that the inner surface of the cyst was intensely congested; there was a good deal of coagulated blood in its cavity. While it would be impossible to say that no opium had been taken, yet it seems probable, when we consider that the pulse was natural, that the surface was not cool and clammy, and that there was a tendency to strabismus, that her death resulted from the tuberculosis, perhaps rupture of the cyst. There was no morphine found anywhere around, and her general disposition and circumstances were such as to forbid the conception by her friends that she could have taken poison. The case seems to have been another instance of sudden coma incident to tubercular meningitis. It is of extreme interest as showing how insidious miliary tuberculosis of the serous membranes may be. The only abnormal feature known to her family was an unusual fullness and hardness of the abdomen, developed during the last year of her life.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, March 7th, 1887.—THE PRESIDENT, EDMUND J. DOERING, M. D., IN THE CHAIR.

PROFESSOR FRANKLIN H. MARTIN read a paper entitled,

HYSTERO, NEURASTHENIA, OR NERVOUS EXHAUSTION OF WOMEN.

After enumerating the symptoms of this disease the author discussed the methods of securing the requisites in treatment

viz.: rest, proper feeding, seclusion and sleep. To carry out these methods successfully the physician must first secure full control and the confidence of his patient. The details of nursing, feeding, the application of massage and electricity must be in the hands of well-trained assistants. Dr. Martin cited the details of the management of a case to illustrate the details of the treatment to be followed in such cases, which in nearly all respects was similar to the S. Weir Mitchell treatment.

DR. J. G. KIERNAN said: He regarded the name adopted as a somewhat useless addition to disease-nomenclature, for it seems that most of the symptoms given are not characteristic of any particular disease other than the common form of nervous prostration occurring in women. Most of the symptoms given as regards the vagina, uterus, etc., are such as one expects to find secondary to nervous exhaustion in females. Dr. Martin has not outlined the difference between a condition of neurasthenia, which occurs in a female of previously sound constitution both from heredity and other standpoints, and the condition of the woman whose ancestors have been the victims of neurosis or hereditary disease, or who has acquired a neurotic constitution. In the first of these forms a great deal can be done by combating the exhaustion, and no better system can be given than that which has been outlined by Dr. Martin. In the last type this treatment is worse than useless. A number of patients whom S. Weir Mitchell had treated afterwards came to the private insane hospital to which Dr. Kiernan was at one time physician. With this class of patients the trouble is with the brain, and in most it is congenital. In them the *ego* is of superlative development; they are perfectly willing to be petted and fussed over, but that simply tends to develop the egotism in certain directions. In this class of cases massage is peculiarly noxious, since in many of them there is a sexual element which is likely to be increased by massage, as has been pointed out by Marrell and others. In regard to medicinal treatment, Dr. Martin has not indicated the danger of inducing habits in some of these cases by the prescription of morphine and alcohol, as Dr. Mary H. Thompson some years ago pointed out in this society. Many a neurasthenic person has become the regular inmate of an inebriate asylum or home for opium-habitues, because some physician has prescribed opium or alcohol for the treatment of insomnia.

PROFESSOR A. E. HOADLEY read a paper on

DEEP-TUBING OF THE LARYNX AS A SUBSTITUTE FOR INTUBATION,
WITH A REPORT OF NINE CASES.

In these cases the tube was introduced so that the head of the tube rested within the larynx. Eight of the cases were able to drink consecutive swallows immediately after the operation. While all the cases were fatal, the deep intubation gave the greatest relief. Professor Hoadley believed the most objectionable feature in the O'Dwyer method is the projection of the head of the tube over the top of the larynx, interfering with deglutition and exciting cough. This he proposes to obviate by "deep tubing," which he accomplishes by modifying the tube as follows: shortening the tube to nearly the length of the larynx, making the head of the tube conform more nearly to the interior of the upper part of the larynx. Making the upper surface of the head of the tube cup shaped to facilitate the introduction of the extractor, having that portion of the posterior border of the tube corresponding to the arytenoid cartilages stand on a plane anterior to that of the rest of the tube, so that pressure at this point will be slight, making the obturator three-eighths of an inch longer than the tube to facilitate the deep introduction of the tube. The long tubes, owing to the mobility of their lower ends, produce irritation in the trachea, exciting cough and pain.

PROFESSOR F. E. WAXHAM opened the discussion, and said he took that occasion to present a bronchocele which produced death by pressure on the trachea. The history of this case, briefly, is this: The patient was a girl 14 years old; she had been troubled with a goitre for about a year, which increased rapidly in size, and the people observed that it was at times larger than at others, more particularly after the child had taken cold; but still the goitre gave no inconvenience until three days before death, when it is stated the child had taken a slight cold and the tumor became larger. With increase in the size of the tumor and the consequent pressure upon the gland by the sterno-thyroid muscles, great dyspnoea resulted. The patient was attended by Dr. J. G. Berry, who recognized the true condition, and on the third day called Professor Waxham to perform intubation. The child was in most desperate condition; indeed, it was moribund, the pulse was feeble, rapid and thready, hypotastic

congestion had already occurred in the lungs, and the child was semi-comatose. While in this condition the largest size intubation tube was introduced into the trachea, but it failed to give relief simply because the tube was not of sufficient length. It would not reach through the stricture, and from the pressure of the gland, as rapidly as it was pressed down in position so rapidly would it be pressed up again. The child was so near dead that tracheotomy was thought to be useless. To meet such emergencies, he had a much longer tube constructed, one that will pass entirely through such a stricture and consequently give perfect relief. The object in performing intubation in cases of bronchocele would be to give immediate relief, and to give time in which we might perhaps reduce the tumor by electrolysis or the internal and external use of iodine; or these measures failing, we could then leisurely enucleate the gland. Bronchocele may produce death by pressure laterally, or by suffocation from pressure upon the trachea anteriorly; or a lobe of the gland may develop between the œsophagus and trachea and produce pressure posteriorly. In this case the pressure was exerted laterally. Coming more particularly to the discussion of the paper presented to-night, he thought it should not go without a few words of criticism. As intubation has been performed nine times without success by this new procedure, he would feel that there is little to recommend it. First, in regard to the position of the tube; the author recommends that the tube be reversed, and instead of placing it with the beveled surface forward and the shoulder projecting backward, he recommends the tube turned so that the shoulder will project forward and the beveled surface backward. A case has been reported in which there was complete perforation at the base of the epiglottis from the pressure of the beveled surface of a straight tube. The most nearly perfect tubes are now made with the upper surface curved slightly backwards so that no pressure will be exerted upon the anterior wall. If we turn the tube around and place it with the projecting shoulder forward, how much greater must be the danger from ulceration. Again, he said, the author refers in his illustration to a tube with a shoulder broad posteriorly, a tube that was discarded some time since, for it has been found that a tube with an olive-shaped head fits the

larynx much better than the old tube. He believes that the author is mistaken about the head of the tube riding high and resting upon the arytenoid cartilages. It depends altogether upon the judgment used in the selection of the tube. If a tube is used larger than is appropriate for the age of the patient, it will be found that while the tube can be passed into the trachea without difficulty, yet the head will not sink into the larynx, and then it will ride high and swallowing becomes very difficult, but if the tube has an olive-shaped head and is appropriate to the age, then it will sink into the cavity of the larynx, resting upon the vocal cords, and swallowing is attended with but little difficulty. In regard to the length of the tube, it would seem to me that little would be gained by making it shorter; indeed, this was one of the reasons of Buchot's failure thirty years ago. One can readily see if we use a short tube, one simply projecting through the larynx, there would be much greater danger from detachment of false membrane below the tube. He said that in offering these criticisms it was with no unkind intent, or for the purpose of discouraging attempts at improvement. He said, also, that whilst he had performed this operation over one hundred times, and with a success rarely attained by tracheotomy, yet he does not consider the instruments perfected.

PROFESSOR CHRISTIAN FENGER said he would not say anything about intubation of the larynx according to Dr. Hoadley's method, further than if there is a possibility of avoiding the difficulty in swallowing, then that is a very important point. And if a change in the position and shape of these tubes will help us to avoid that, it will make intubation still much more valuable than it has been heretofore. But he would say a few words in regard to goitre, as Dr. Waxham had shown the very interesting specimen, and as this is of great importance. As Dr. Waxham says, pressure from the goitre on the trachea causes the so-called sabre-sheath trachea with the subsequent stenosis, either from pressure or from softening of the rings from pressure and atrophy. And that is not the only danger in goitre. There are goitres where the trachea is perfectly open, and still a too-often fatal dyspnoea occurs. Those are the cases where the recurrent laryngeal nerve is affected by pressure from the tumor so as to cause symptoms of posticus paralysis. Thus we see cases where extirpation of the goitre has been made to relieve respiratory difficulties. We see that thus the respiratory difficulty re-

mains in spite of the removal, sometimes for a time, sometimes forever; the latter when no repair of the nerve is possible. Besides these two classes of danger to goitre patients, there is a third met with, of course only in severe cases. It consists of a spasm of the glottis severe and continuous enough to terminate in sudden death. How this spasm originates is as yet unknown. The authors who have paid most attention to this subject feel inclined to believe that pressure from the goitre on the pneumo-gastric nerve causes irritation of the vagus center of the brain, and reflex contraction of the muscles of the glottis. These are the cases where goitre patients in apparently good health, with no dyspnoea, or with a slight occasional attack, will die suddenly. For instance, a patient is well and around amusing himself during the day, and in the night a sudden dyspnoea sets in and the patient dies before anything can be done. Intubation with the long tube in a goitre patient shown by Dr. Waxham may be of very great importance as a means of relieving suffocation-attacks in goitre.

PROFESSOR FERDINAND HENROTIN said his position is very strongly in favor of that taken by the author of the paper; his experience has been directly the opposite of that of Dr. Hoadley. He had only had a few cases, but if they are of any importance in elucidating the point, he would take pleasure in giving them. He believes in having the tube facing in the way mentioned in the paper. His first case was about a year ago, the patient being brought to him from out of town. As it was his first case he took particular pains to follow the regular method as pointed out by those who had introduced it, and so introduced the tube with the upper face looking forward and upward, that is, the upper plane at the entrance. The child threw up the tube within ten minutes. He immediately replaced it, and while the patient remained in the office he was perfectly free in his breathing and entirely relieved from stenosis. In spite of endeavors to have him remain, he was taken to his home in the country, the tube remaining in place. About eight o'clock the next morning he coughed up the tube. He was all right for an hour, then he began to choke up again, and in another hour died from stenosis.

In another case he had immediately after, there was no relief. He introduced the tube four different times; he had it in the larynx and it remained in position, but the child was not relieved. He had intubed a third child, and it died.

The three cases were all with the tube in the way mentioned by Dr. O'Dwyer, and they all died. Following that he had three successful cases, and the tube was introduced the other way, facing in the other direction. In one of the cases he had no particular trouble in taking the tube out, but he had more or less trouble in introducing it, a little more than the other way. These cases all recovered. He had a case that recovered, a child of seventeen months, who retained the tube four days and coughed it up himself. Following that he again resumed the method of Dr. O'Dwyer, and placed the tube in the other direction, and that child died. In another case he was called to place a tube, and introduced it without difficulty; a little less than twenty-four hours after putting in the tube, according to the O'Dwyer method, it was coughed up by the patient. He then replaced the same tube, facing the other way, and the patient had no difficulty as yet in retaining it. He had four cases intubed by the O'Dwyer method, with four deaths; three cases with the tube turned the other way, all recoveries; probably a coincidence to a great extent. The eighth case has not progressed far enough to state whether the child would recover.

In regard to the advantages of this method, he had never had but one tube coughed up that was put in in that way, but the child recovered. The tube seems to hold much better, it sinks into the larynx and in most cases disappears, so that one cannot feel it with the finger, while if it is turned the other way one can feel the edge of it with the finger.

So far as the extraction of the tube is concerned, except in two instances, he had no particular difficulty. As regards swallowing liquids, he thinks it is speaking strongly to say that the patients can swallow. He feeds his patients on semi-solids, that slip down easily, and gives little pieces of ice to quench the thirst.

The disadvantage that attaches to the short tube is that the expulsive effort at coughing frequently causes it to be coughed up. The length and weight of the tube must be an element in keeping it in place. He believes that too small tubes are being used. He uses the second size in a child of four years.

PROFESSOR E. FLETCHER INGALS said he had no prac-

tical experience in putting in the tube the wrong way, and does not know how well it may turn out, but anatomically it is certainly wrong unless the shape of the tube be modified. It may be that with the head of the tube modified it would sink into the larynx, as recommended by the author of the paper; but with the tube as constructed by Dr. O'Dwyer it does not seem a safe procedure to insert it wrong side foremost, for fear of pressure upon the epiglottis causing ulceration. As to the effects of deglutition, if the tube fitted and would set deep in the larynx and remain there, of course the patient could swallow more readily. It seems to have been the experience of the last speaker that these patients do not always swallow readily even when the tube is seated deeply in the larynx, and Professor Ingals inclined to believe that unless some device can be invented to prevent the entrance of fluid it is better that the patient should take none. Where he had introduced the tube it has been for other physicians, so that he had usually been unable to watch the subsequent treatment; but in those that had recovered he had insisted that they should drink absolutely nothing. The child will want to drink very badly after the first twenty-four hours, but it is not a necessity for a few days. If no fluid is allowed the patient is not nearly as likely to have bronchitis or pneumonia as when it is permitted to drink. The child may have ice, it may have enemas, and may have soft solids in abundance. As to the length of the tube, he agreed with the last speaker that the long tube is the better. One of Buchot's mistakes was that he made his tube too short. But the principal reason for his failure was that he attacked tracheotomy; he not only wanted to introduce his tube, but he wanted every one else to stop tracheotomy. He inquired what success Dr. Waxham had had with the rubber collar in preventing the entrance of fluids into the air passages.

DR. JOHN W. NILES said his observation leads him to think that it does not make very much difference which way the tube is introduced as regards the patient's ability to swallow fluids. In neither way can this be done without exciting cough. In the two cases in which Dr. Henrotin had introduced the tube for him he introduced it the wrong way, and they swallowed fluids better than it had been expected

they would. The next case Dr. Niles introduced it the wrong way. The child had more difficulty in swallowing than the others had. On the third day he coughed the tube up, and when reintroduced it was in the way recommended by Dr. O'Dwyer, and there was a marked improvement in his ability to take liquids. In fact, he swallowed better than the other two. He succumbed to the disease six days after the tube was first introduced.

PROFESSOR F. E. WAXHAM said, in regard to the rubber attachment which he had recently devised, he believes it to be a great improvement. Some may not desire to use the artificial epiglottis attached to the rubber collar, in which case it can be removed and the tube will still be a great improvement, inasmuch as, the head being small and surrounded by the rubber, it will fit the larynx more perfectly, there will be less irritation, and ulceration will be impossible. He believed that he recently saved two little patients in which this device was used, and had also employed it in other cases with advantage. He agreed with Professor Ingals that it is best to keep water from the little patients as far as possible. Let a small piece of ice be placed in a cloth and held in the mouth. This relieves the urgent thirst without causing the frequent coughing that arises from the endeavor to swallow water.

PROFESSOR HOADLEY, in closing the discussion, said: As mentioned in the paper, he had started out in the matter of intubation on his judgment as to the position the tube was designed to take in the larynx, for he had not given the subject sufficient attention to remember that the tube was designed to rest high in the larynx, and his experience has been so pleasant, so far as the non-interference with the function of the throat is concerned, that he decided in his own mind that deep tubing is preferable to intubation. The cases that he had tubed in that manner were all bad ones; not in a single one could a favorable prognosis be given. They were all promptly relieved, and that was all one could expect to attain from the tubing. The only advantage that the long tube can have over the short one is its weight, except in rare cases, and then its length is of advantage. In the majority of cases of laryngeal stenosis the obstruction is entirely in the larynx, and when it does extend down into

the trachea the probabilities are that the child will die of continued extension, and in such a case the long tube can be introduced. In the nine cases tubed in this manner he had used the long tube, so that he could not say whether the short one would have relieved the stenosis. In one autopsy where there was laryngeal diphtheria there was no diphtheritic exudation in the trachea, so that the extension of the tube to the seventh ring was unnecessary. In reference to the position of the tube resting against the epiglottis, as in the O'Dwyer method, he would state that the epiglottis folds down and bears first upon the shoulder of the tube, then closes its orifice, but it cannot perfectly close the larynx. Dr. O'Dwyer has had ulceration of the epiglottis with perforation. One might think it would be a great deal worse to turn the tube around—that the pressure would be greater upon the epiglottis; but when the tube is turned around it goes half an inch lower, and the projection of the tube that is supposed to touch the epiglottis does not touch anything, and the mucous membrane is not pressed upon at all. Introducing the tube in the O'Dwyer method it will not go into the larynx; one can push it down and still it can be felt above the larynx, so when the epiglottis folds over, it must necessarily come against the tube. By turning the tube around, sinking it well into the larynx, it goes down so far that in a small larynx one cannot touch it with the finger; it goes down as far as the attachment of the apex of the epiglottis with the thyroid cartilage. The epiglottis folds down over the larynx, the laryngeal tube is still free below it, resting on the vocal cord, so that it can produce no ulceration of the epiglottis. As to the vocal cords, Dr. O'Dwyer says that ulceration is rare in that situation. That is because the pressure is slight, and not attended by friction, as in the epiglottis. Northrup says one must press the tube well down into the larynx. In doing this it rests against the epiglottic cartilage and its projection presses back against the arytenoid cartilages, pressing them wide apart in the most disagreeable manner. It is like putting the right foot into the wrong boot. It does not fit or rest easy at any point. Turn the tube around and it rests comfortably in the larynx without one point of pressure; the only pressure induced is that of swallowing, which is not sufficient to pro-

duce ulceration. To facilitate extraction he had constructed a cup-shaped depression on the head, instead of the oval convex surface with the hole directly in the summit. With the oval head, unless one strikes the aperture itself, one is not likely to find it, as the extractor will invariably glide to the outside of the tube. With the cup-shaped head, partly from the tube being surrounded by the larynx, the extraction is greatly facilitated. His patients, with the one exception mentioned, had all been able to drink fluids; two or three swallows without coughing. Occasionally there was some irritation: they would drink a large swallow and cough, immediately drink again and then cough, but not one refused to drink. The object of the rubber collar with its valve-like attachment is to close the orifice of the tube. Inasmuch as the epiglottis will close the tube by its automatic action of folding down over it, he regards the rubber top as being useless; not only useless, but he believes that the valve, standing up in constant apposition with the epiglottis, is a source of additional and continued irritation.

HOSPITAL REPORTS.

TWO RECENT AUTOPSIES, AT COOK COUNTY HOSPITAL.
REPORTED FOR THE *Journal and Examiner*. By ELBERT WING, A.M., M.D., PATHOLOGIST TO THE HOSPITAL.

For the sake of brevity, only those conditions in these cases which are of special interest are reported in the descriptive form in use in the hospital records, the other pathological conditions being mentioned only as they are described in the diagnosis.

Case No. 1.—The patient was brought to the hospital by the police patrol in a state of coma, and died thirty minutes after admission. The officers in charge knew nothing of the history of the case, and no friends appeared to claim the body.

The autopsy was made thirteen hours after death. The body was that of a man about forty years of age, with a moderate amount of emaciation. Rigor mortis was slight, and there was marked icterus in the sclerotics and in the skin about the head, neck and upper part of the thorax. There were no marks of violence, and the abdomen was only moderately distended.

The abdominal cavity contained 750 c.c. of clear, dark brown serous fluid, and each pleural cavity contained 420 c.c. of similar fluid. The appearance and contents of the pericardial cavity were normal.

The right auricle contained a small quantity of dark, clotted blood, and the right ventricle was distended by similar contents. The left auricle and ventricle contained a small quantity of similar blood. The valves of the heart were all slightly thickened. The endocardium was in the condition described as chronic endocarditis, and there were a few small spots of atheroma at the base of the aorta. The muscular tissue of the heart was somewhat pale, and the size of the organ normal.

The visceral and parietal layers of the pleura were united by firm adhesions over almost the entire upper lobe of the right lung, and there were a few firm bands over the rest of the surface of both lungs. There was marked œdema in the upper lobe of the right lung and hypostatic congestion in the lower lobes of both lungs.

In the spleen there were two abscesses, the size of a pea, and the organ was otherwise in normal condition.

On the posterior surface of the left kidney there was a white nodule, which upon section was found half imbedded, and the size of a filbert. This tumor was of a glistening white color, rather soft, contained no large blood vessels, and did not have a hyperæmic border. The cut surface presented an appearance of fine fibrillated, somewhat concentric structure, which, however, could be made to disappear upon stretching.

Upon microscopical examination, this tumor was found to be a round-celled sarcoma. At its circumference there was a moderate degree of acute parenchymatous nephritis, and there was no well-defined line of demarcation between the tumor and the proper structure of the kidney. There were several similar tumors, the size of millet seed, in the vicinity

of the large nodule. With the exceptions already mentioned the kidneys were apparently in normal condition.

The liver extended 10 c.m. in the right linea mammalis below the costal cartilages, and was firmly adherent to the diaphragm, duodenum, pancreas and the pyloric end of the stomach. The surface was mottled, with large, bluish-red and icteric patches. The greatest relative increase in the size of the liver was its thickness, which was 15 c.m. About 4 c.m. from the median line of the body, and just below the costal cartilages, there was a marked and somewhat conical swelling of the surface of the liver. Over this area of 4 c.m. there was distinct fluctuation on palpation, and several small, yellowish-white spots, which had the appearance of points in an abscess about to rupture spontaneously. The principal section of the organ was made through this swelling, and revealed an abscess 12 c.m. in diameter in the right lobe, containing thick, stringy, greenish-yellow pus of a slightly sweetish odor. After this cavity was freely washed out, there remained upon its walls a coating of tough, stringy pus, say 10 m.m., thick, from which larger ropes, or strings, of pus hung, which could not be dislodged by a stream of water of considerable force. For a distance of 5 m.m. around the abscess, the liver tissue was markedly hyperæmic. The appearance of the cut surface of the organ generally was that of chronic passive hyperæmia.

The gall bladder was one-third full of bile, and the ductus communis choledochus was freely open.

The stomach and small intestine presented only normal appearances. The mucus and submucous coats of the cæcum and of the lower half of the ascending colon was very

extensively ulcerated. The ulcers varied in size, from a pin-head to a lima bean. They were both round and oval in shape, the edges were slightly raised, the bases red, and the flow smooth. In the cæcum they were almost confluent, but they became smaller and less numerous toward the transverse colon. The transverse and descending colon were in normal condition.

With the exception of a considerable œdema of the pia mater, especially marked over the right frontal lobe of the cerebrum, the examination of the brain revealed no pathological conditions.

It is perhaps worth while to call attention to the fact that the abscess of the liver was single, and the ulceration of the colon confined to the upper portion ; while in abscess of the liver, resulting by thrombo-phlebitis from ulceration in dysenter, the abscesses are multiple, and the ulceration more severe at the lower end of the colon.

The sarcoma of the kidney was primary, probably developed, as described by Grawitz, from the internal layer of the capsule of the organ. Such sarcomata very rarely occur.

In consequence of the findings of the autopsy, the following diagnosis was given, viz : Œdema of the pia mater ; chronic endocarditis with atheroma ; double chronic pleuritis with double hydrothorax ; œdema of upper lobe of right lung with hypostatic congestion of both lungs ; multiple abscesses of the spleen ; primary sarcoma of left kidney ; abscess of the liver ; colitis with ulceration of cæcum and ascending colon.

Case No. 2 was that of A. B., 35 years old, admitted

November 8th, the diagnosis being typhoid fever. The attack was considered a light one, and the patient was allowed to get up on November 28th. During the month of December he spent his time partly in bed and partly sitting up in a chair. During this period the progress of the case was imperfectly recorded. From January 1st to 12th the temperature ranged from 99° to $100^{\circ}.2$ F. On January 12th, at 12 p. m., the pulse rapidly rose to 120, the temperature, rectal, to $105^{\circ}.2$, and the respirations to 32. The following record is a copy of the history-sheet of that date, all degrees of temperature given being according to the Fahrenheit scale, and taken in the axilla :

“January 13th, 1:30 a. m., T. $104^{\circ}.5$; 2:45 a. m., T. $104^{\circ}.4$; 3 a. m. placed in ice pack ; 3:30 a. m. T. $104^{\circ}.2$; 4:45 a. m., T. 103° , pack removed ; 4 a. m. T. $103^{\circ}.5$; 6 a. m., T. $101^{\circ}.8$; 8 a. m., T. $99^{\circ}.6$; 9:30 a. m., T. $101^{\circ}.8$; abdomen markedly tympanitic and tender, patient vomiting frequently ; 6 p. m., P. 20, T. $101^{\circ}.4$; 9 p. m., P. 120, T. $101^{\circ}.5$; 11:45 p. m., T. $98^{\circ}.6$. Jan. 14, 2 a. m., T. 102.8 ; 4 a. m., T. $100^{\circ}.2$; 6 a. m., $98^{\circ}.8$; in state of collapse all day ; 9 p. m., T. $96^{\circ}.8$, death.”

Owing to unavoidable delays, the autopsy was held four days after death. The condition of the organs revealed by the post mortem examination was as follows, viz :

There was chronic myo-endocarditis, with fatty degeneration of the muscular tissue of the heart. Double acute parenchymatous nephritis, with a few firm, white, round spots in the pyramids of the kidney. These spots were as large as a grain of wheat, uniform in appearance throughout their extent, and were what Virchow has called localized

interstitial nephritis. Acute parenchymatous hepatitis. Acute parenchymatous splenitis. The abdomen was only slightly tympanitic. There was a small quantity of somewhat turbid serous fluid in the abdominal cavity, which contained a moderate amount of flakes of fibrin. The small intestines were matted together by recent and soft adhesions, and in the left iliac region, near the median line, there was a recent adhesion between the intestine and the abdominal wall. The area of this adhesion was 3 c.m. in diameter. There were several recent, but slight, adhesions between the liver and the diaphragm. On the parietal surface of the peritoneum there were a number of large, bluish-red patches, the surface of which had a villous or velvety appearance, and in these patches, and also on other parts of the surface, the vessels were filled with blood, and presented a dendritic appearance. That part of the peritoneum covering the intestines presented a similar appearance.

The intestines contained a small quantity of homogeneous, yellow fluid fæces. A small number of the solitary glands, and two of Peyer's patches, were infiltrated and slightly raised above the surface of the intestine. In the ileum, 20 c.m. from the ileo-cecal valve, which point corresponded with that of the adhesion between the intestine and the abdominal wall already mentioned, there was a round perforation of the intestine the size of a slate-pencil. With the exceptions already mentioned, there were no lesions in the intestinal canal.

This case emphasizes very strongly one interesting and one important point in connection with cases of typhoid fever. It is interesting to observe that the number of ulcers in an unmis-

takable case of typhoid fever may be small—in this case one. It is important to remember that in cases of slight severity, because of the very mild character of the symptoms, physician, nurse and patient are apt to be careless, and thus frequently make them the most dangerous ones.

3266 Cottage Grove avenue.

ITEMS.

The Twenty-seventh Annual Meeting of the Illinois State Medical Society will be held in the Methodist Church Block, corner Clark and Washington Streets, Chicago, beginning May the 17th, 1887, at 10 o'clock A. M.

INTERNATIONAL MEDICAL CONGRESS.

Professor J. J. Chisolm, M.D., of Baltimore, Md., has been elected President of the Section of Ophthalmology of the Ninth International Medical Congress, in the place of Professor E. Williams, who was compelled to resign on account of ill-health.

Judson B. Andrews, M.D., Superintendent of the Hospital for the Insane, Buffalo, N. Y., has been appointed to the office of President of the Section of Psychological Medicine and Nervous Diseases, made vacant by the recent death of Professor John P. Gray.

No vacancies now exist in the principal offices of the Preliminary Organization of the Congress or of its sections. The latest information regarding all departments is of the most encouraging character.

HOSPITAL APPOINTMENTS.

The annual competitive examinations for the positions of internes at the various Chicago hospitals occurred during the past month, and resulted in the following appointments:

Cook County Hospital—Dr. Buffluer, Dr. J. Hillmantel, Dr. G. J. Kaumheimer, Dr. W. H. Allport, Dr. L. Hektoen,

Dr. C. E. Earle, Dr. A. B. Hart and Dr. Rachel Hickey.

St. Luke's Hospital—Dr. F. Holden and Dr. Edward E. Kerr.

Eye and Ear Infirmary—Dr. G. E. Brinckerhoff.

Michael Reese Hospital—Dr. Stehl and Dr. Greensfelder.

Mercy Hospital—Dr. E. E. Kerr and Dr. G. W. Whitfield.

Presbyterian Hospital—Dr. A. J. Mellish and Dr. C. W. Ward.

Woman's Hospital—No appointment.

COMMENCEMENT EXERCISES AT THE CHICAGO MEDICAL COLLEGES.

At the recent commencement exercises the four regular medical colleges in Chicago have graduated 253 students.

The annual exercises of Rush Medical College were held in Central Music Hall, February 15th, at which time 132 students were graduated.

On February 21st, the College of Physicians and Surgeons held its commencement exercises in the Grand Opera House, and graduated 52 students.

At the annual commencement exercises of the Chicago Medical College (Medical Department of the Northwestern University), held at Central Music Hall on March 29th, there were 44 graduates.

The Woman's Medical College held its seventeenth annual exercises in the Grand Opera House on April 5th, with a class of 25 graduates.

EXTRACTS.

THE SURGERY OF THE PANCREAS.

The most important surgical paper of last year, in this country at least, was read by Dr. Nicholas Senn, of Milwaukee, before the American Surgical Association at its last annual meeting, and has now been issued as a reprint from the "Transactions of the Association." Those who are familiar with former papers of Dr. Senn, with the records of his careful experiments, and with his lucid style, need not be told more as to the importance of the paper. But whether our readers be or be not familiar with his writings, they will at once recognize that a carefully written paper of 129 octavo pages on the surgery of the pancreas must contain much valuable material, and positive additions to our knowledge of this very obscure subject. The surgery of the pancreas has no history except as to the treatment of a few cases of cysts of the gland, but the results in these cases have been so encouraging that there is much hope for the future of the surgery of the organ.

The experiments of Dr. Senn as to complete section of the pancreas tend to show that this lesion, unless complicated by other and more serious lesions, is not dangerous to life if the chief source of danger, hæmorrhage, be properly treated. "The co-aptation of the divided ends would be desirable, but is not essential, as the continuity of the duct is not restored after this injury." No disturbance of digestion was noted in either of the two experimental cases, since a sufficient amount

of pancreatic juice was secreted from that portion of the organ in communication with the intestine. In case of this injury the most important indication is to arrest bleeding, and to suture the two cut ends of the organ so as to keep them in place, and thus maintain normal blood-supply. In an experiment with regard to the effect of laceration of the pancreas death resulted from the accidental re-opening of the abdominal wound. "Hæmorrhage was arrested spontaneously, and the process of repair, so far as the wound in the pancreas was concerned, appeared to be satisfactory. The divided ends were displaced considerably immediately after the laceration, but were subsequently brought into close contact by the cicatricial contraction." Believing that putrefaction cannot occur without specific germs, Dr. Senn crushed the pancreas of a cat to the extent of two inches in order to test the matter. The animal lived until it was killed, on the eighty-sixth day. It was found that the crushed portion was removed by absorption, which seems to be very rapid in this locality, and which may be explained by assuming that the peritoneum takes an active part in the process. No infection took place, nor could any evidence of putrefaction be found. "Subsequent degeneration, atrophy and sclerosis, take place in that portion of the gland which is no longer connected with the intestine by a permeable duct."

It was found that complete extirpation of the pancreas is invariably fatal, though Schiff has asserted the contrary; and it is important to know that in the two specimens from experiments which showed evidence of gangrene, this was seen on the convex surface of the bowel, but did not in either case involve the entire diameter of the intestine. Surgically speaking, partial extirpation of the pancreas is less serious than

complete removal, though physiologically the consequences may be the same if the portion removed embrace the common duct or the two principal ducts from the two portions of the gland. In all of Dr. Senn's experiments the common duct was removed with the excised portion, and thus left the animal, physiologically, without a pancreas. In two cases the animals lived long enough to show the influence of the pancreatic juice upon digestion and assimilation. In each of these animals "the general health and nutrition remained unimpaired for four weeks, when emaciation, with fatty stools, followed, which resulted in death from marasmus in one, after seventy days, and reduced the second to a skeleton in 126 days." As from the beginning no pancreatic juice passed into the intestine it is difficult to account for the good condition of the animals for the first four weeks. Had the marasmus been due to the resection of the mesentery of the duodenum, by diminution of intestinal absorption, it should have begun earlier. We may assume that the pancreatic tissue left continued to secrete until it was incapacitated by degenerative changes; and with this assumption we must believe that the pancreas could absorb its secretion, and that this, entering the circulation, must have had some influence upon digestion. It is also important to know that in one case almost the whole duodenum was suddenly deprived of its blood-supply, and yet gangrene did not occur, as collateral circulation was set up by the development of two vessels in a band of cicatricial tissue along the concave surface of the bowel.

Seventeen experiments were made to prove the feasibility of ligation of either portion of the pancreas near the common duct as a surgical measure, and the regularity with which the pancreatic tissue is removed by degeneration and absorption

of the detached portion of the gland. The ligatures used were of rubber. In every case in which complete physiological detachment was produced by the ligatures, resection, crushing, or any other means, atrophy followed. In no case was anything like a cyst produced. The facts of this atrophy and the non-formation of cysts show that "in operations upon the pancreas it is not essential or necessary to remove peripheral portions of the gland, for fear that if any of the parenchymatous structure should remain a retention cyst would follow. In partial resection for injury or disease it would be advisable to ligate the peripheral portion, and permit it to remain, as it would lessen the danger by the infliction of less traumatism, and we can confidently expect that it will be removed in a short time by absorption." So also the important pathological question of retention cysts is settled by the experiments; such cysts cannot be due to obstruction of the duct. Again, we are taught the importance of removing those portions of the organ which are not supplied with blood-vessels rather than to trust to absorption, as dead pancreatic tissue is very putrescible.

Experiments were made for the purpose of studying detached portions of the pancreas, and the method of operating in these cases is worthy of the attention of physiologists, though it need not be detailed here. The experiments showed conclusively that when a portion of the pancreas is separated secretion continues until complete degeneration and absorption have caused the disappearance of the parenchyma. "That the atrophy in the part of the organ which has been detached from its connections with the intestine is not due to a traumatic interstitial pancreatitis is proved by the normal appearance and structure of the remaining portion of the

gland which has retained its anatomical and physiological relations to the intestine": which again supports the author's view that physiological detachment of any portion of the pancreas is invariably followed by degeneration and complete atrophy, consequently also by complete cessation of functional activity. Eleven experiments were made for the purpose of determining the action of the pancreatic juice on the peritoneum. In only two of the cases was death caused by purulent peritonitis, and the results justify the conclusion that normal pancreatic juice does not cause peritonitis when brought into contact with the peritoneum; and the further conclusion that such juice is absorbed. The duodenum in these cases was denuded of its mesentery, and thus of its vascular supply, for from one to three inches, but no gangrene occurred. One experiment showed that even if no pancreatic juice be produced, digestion may remain good; and the ligation experiments show that the introduction of normal pancreatic juice into the circulation is not harmful, and may be tolerated for two or three weeks without bad consequences.

It has already been seen that crushing and laceration of the pancreas are not of themselves necessarily fatal; and if, during an exploration for abdominal injuries, this organ be found extensively crushed, "it would be good surgery to remove the crushed portion after preliminary ligation of the organ on each side of the comminuted portion. Ligation of the pancreas can be safely done with a single catgut or silk ligature, as the friable texture of the organ will permit of burying the ligature deeply." Crushed pancreatic tissue and pancreatic juice must be removed to prevent traumatic infection. In a case of prolapse of the pancreas, if the prolapse be recent and there are no signs of inflammatory or other changes, it should

be thoroughly disinfected and replaced with great gentleness ; and if reduction be difficult the wound should be enlarged. Should the organ be in an inflammatory or gangrenous condition "the parts should be thoroughly disinfected and the organ pulled further into the wound until healthy tissue is reached, when a ligature is applied and the diseased portion removed with the knife or scissors. After thorough disinfection the stump is dropped into the abdominal cavity and the external wound closed. Thorough primary removal of infected tissue is the only safety against subsequent extension of the infection to the peritoneal cavity, and the only guarantee for primary union of the abdominal wound." Gangrene, one of the terminations of acute inflammation of the pancreas, may also be included among the diseases of the pancreas which may be treated by surgical measures ; inasmuch as spontaneous recovery has followed the elimination of the necrosed organ, it seems not unlikely that timely removal of the necrosed pancreas would add to the chances of recovery. It should not be forgotten that the pancreas may be a part of the intussusception in a case of invagination, and in abdominal section for the relief of this condition the pancreas should not be overlooked. In searching for the cause of this condition, or that of peritonitis, when it is found that the primary disease is located in or around the pancreas radical measures should be adopted when practicable. "Whenever the sac can be stitched to the external incision this should be done, and the sac opened, disinfected, and drained. Search should be made for the necrosed pancreas, and when found detached it should be removed. As in most of these cases the retroperitoneal tissue is extensively infiltrated, a counter-opening should be made in the lumbar region above the kidney, and thorough drainage estab-

lished. If an anterior abdominal fistula cannot be established, the course to be pursued should be the same as in treating a pancreatic abscess under similar conditions."

In a subsequent issue we will notice that portion of this valuable paper which deals with other pathological conditions of the pancreas.—*Journal of the American Medical Association.*

EXPERIMENTS IN TRAP-SIPHONAGE AT THE NAVY MUSEUM OF HYGIENE.

Repeated experiments on trap-siphonage have shown beyond question that the ventilation of soil-pipes and traps is a safeguard against the entrance of sewer gas into dwellings except in unusual contingencies, provided the general plan of the drainage and sewerage is correct and the workmanship good. The experiments at the Navy Museum in Washington have confirmed the results of those reported to the National Board of Health by Philbrick and Bowditch, and are stated in the following terms:

1. The seals of ventilated traps are safe against siphonage and back pressure.
2. The seals of unventilated traps are never safe from siphon action or back pressure, except in deduction four.
3. The vertical vent should be three inches, with a four-inch soil-pipe.
4. Traps connected on a horizontal pipe and fixtures discharging on the same level into horizontal pipe, apparently have no effect on unventilated traps.
5. All varieties of non-mechanical traps are more easily affected by back pressure than by siphonage.
6. The ball traps were not affected by back pressure, but by siphonage.
7. The Sanitas trap withstood siphon action better than

any of the patent traps, but was easily affected by back pressure.

8. The sewer air is more liable to enter unawares by back pressure through the seal of the trap, because the seal remains unbroken.

9. Difference in friction of iron and lead pipes made no apparent difference in the effect on the traps.

We are left in the dark, however, as to the precise nature of the unusual contingencies under which it is admitted that ventilated traps may be siphoned out and the emanations from the sewers enter houses; and Putnam and Waring think that they have shown that the so-called unusual conditions may occur where not in the least suspected, although a patent trap and water-closet intended to meet these "unusual contingencies" might perhaps serve as a bias against entirely unprejudiced judgments in the case.

It is true, however, that the approved methods of plumbing are now so costly as to make them practically unattainable to many householders, and that, outside of a very simple system of plumbing for moderate-sized houses, it is difficult to know with certainty what is safe and what is not. The Museum of Hygiene, under the Navy Department, has an excellent opportunity to show just what the conditions are by which water-closets and soil-pipes inside a house may be made free from danger, and it is to be hoped that this will be done, no matter what the cost of time or money. If plumbing can be simplified and cheapened at the same time, the benefit to society will be incalculable.—*Medical News*.

THE HOT SPRINGS HOSPITAL.

Several years ago the late Senator Logan visited Hot Springs, Arkansas, and obtained there so much relief from

rheumatic troubles with which he was afflicted that he determined to make the benefits of the place available for the army and navy, and to that end obtained an appropriation for the construction of a hospital at Hot Springs for the use of the officers and men of those services. The sketch plans for this hospital were prepared by Dr. Billings, of the army, and these, after approval by the Secretary of War, were elaborated, and detailed drawings and specifications prepared by a Washington architect, Mr. Smithmeyer. The buildings are now completed, Dr. R. S. Vickery, of the army, has been assigned as surgeon in charge, and a circular from the War Department announces that the hospital will be opened for the reception of patients January 17th, 1887. The circular says:

“Relief may reasonably be expected from the use of the Hot Springs water in the following classes of diseases, viz.: gout and rheumatism in their various forms, after the acute or inflammatory stage has passed; neuralgia, peripheral or central, especially when depending upon gout, rheumatism, specific infection, or metallic poisoning; paralysis, if not recent, progressive or organic; locomotor ataxia, or tabes, if not in advanced stages, and especially if traceable to specific infection; Bright’s disease of the kidneys, only in the early stages; diseases of the bladder and urinary organs; functional diseases of the liver; dyspepsia; chronic diarrhœa and catarrhal diseases generally; chronic skin diseases, especially of the squamous or scaly forms; chronic conditions, resulting immediately from specific infection, either syphilitic or malarial; chronic alcoholism.

“In general terms it may be stated that the Hot Springs water acts by stimulating all secretions and organic functions, increasing appetite, promoting digestion and assimilation;

favoring tissue change and excretion of waste products, relieving internal congestions, and stimulating the blood-making function.

"In the following classes of diseases the use of the Hot Springs water is contra-indicated: All acute inflammatory diseases; tuberculosis; organic diseases of the heart and brain; aneurism, cancer and all diseases in which stimulation of the circulation is to be avoided."

The hospital will accommodate about twenty officers and sixty-four enlisted men. Authority for admission to it is to be obtained from the Adjutant General of the army or from the Surgeon-General of the navy.

In Europe it is very common to provide special hospital accommodation at certain mineral or thermal springs for the benefit of the army, but this is the first time it has been tried in this country, and the results will be looked for with interest. It should be possible from the records of this hospital to obtain much more definite information than we at present possess as to the real therapeutic efficacy of the Hot Springs waters.—*Medical News.*

STANDARD DISINFECTING SOLUTIONS RECOMMENDED BY
THE STATE BOARD OF HEALTH OF PENNSYLVANIA.

1. STANDARD SOLUTION No. 1.—Dissolve chloride of lime or bleaching powder of the best quality (containing at least twenty-five per cent. of available chlorine) in soft water in the proportion of four ounces to the gallon.

2. STANDARD SOLUTION No. 2.—Dissolve corrosive sublimate and permanganate of potash in soft water in the proportion of two drachms of each salt to the gallon.

(NOTE.—1. This solution is highly poisonous. 2. It requires a contact of one hour to be efficient. 3. It destroys lead pipes. 4. It is without odor.)

3. STANDARD SOLUTION No. 3.—To one part of Labarraque's Solution (*liquor sodæ chloratæ*, U. S. P.), of hypochlorite of soda and five parts of soft water.

(NOTE.—Competent authority has pronounced this superior to all other disinfectants.)

STANDARD SOLUTION No. 4.—Dissolve corrosive sublimate in water in the proportion of four ounces to the gallon, and add one drachm of permanganate of potash to give color to the solution, as a precaution against poisoning. One fluid ounce of this solution to the gallon of water is sufficiently strong. Articles should be left in it for two hours.

(NOTE.—Corrosive sublimate solutions should be kept in wooden or crockery vessels.)

TO DISINFECT DISCHARGES FROM THE PATIENT.

Use standard solutions Nos. 1, 2 and 3, keeping a pint of the solution used constantly in the vessel, ready for any emergency. Let the discharges be passed directly into the solution, and then let a pint more of it be added, and allow the whole to stand for some time before being thrown into the sewer or being buried.

TO DISINFECT CLOTHING, TOWELS, NAPKINS, BEDDING AND SUCH TEXTILE FABRICS AS CAN BE WASHED.

Use standard solution No. 4, *one ounce to the gallon of water*, or use one gallon of solution No. 1 in nine gallons of water. Let the goods soak in the solution for at least two hours—better four hours—before they leave the room. Stir them up so that the solution gets all through them. After disinfection, boil the goods thoroughly.

FOR THE DISINFECTION OF WATER-CLOSETS, URINALS, SINKS
AND CESS-POOLS.

CARBOLIC ACID SOLUTION.—Mix one pint of carbolic acid with two and a half gallons of water.

Standard solution No. 4, diluted with three parts of water, may also be used in the proportion of one gallon (of the solution) to every four (estimated) of the contents of the vault. Standard solution No. 1 would require to be used gallon for gallon of the material to be disinfected. Dry chloride of lime may be sprinkled over the contents of a privy, or standard solution No. 2 may be made up by the barrel, and four or five gallons be applied daily during an epidemic. In country places, an excellent plan, and probably the best plan to disinfect a privy, is to cover the contents with two or three feet of fresh earth. Every odor is effectually concealed by absorption in the earth.

TO DISINFECT THE SICK ROOM AFTER IT IS VACATED.

If it is possible let the room be thrown wide open for several days, for a thorough airing. If papered, let the paper be all removed with care. Then let all the walls, the floor and the woodwork of the room, as well as the furniture, be washed with standard solution No. 4, one pint to four gallons of water, or of solution No. 1, a quarter of a pint to a gallon of water. Let this work be done most carefully, getting the solution into all the crevices. If any dust be present in the corners and crevices, wipe it out with a rag wet in the disinfecting fluid. *Don't stir it up with a brush or broom.* Last of all, whitewash the walls and the ceiling.

SULPHUR FUMIGATION

is believed in by many as very efficacious. Open wide all

the drawers and closet doors. Hang on lines, opened up as much as possible, all the woollen articles which have been in the room during the sickness and which have not been disinfected and washed, then burn two pounds of sulphur for every thousand cubic feet in the room. Every opening into the room — flues, doors, windows, cracks and crevices — must be closed, except the door by which the disinfector is to escape. The sulphur is to be burned in an iron kettle or other vessel set in a tub containing a little water, to guard against fire. A little alcohol or kerosene must be poured upon the sulphur, by means of which it may be ignited. Leave the room quickly, for the fumes are highly poisonous when breathed, and close the door tightly. Let the room remain closed twenty-four hours or more. Then air thoroughly for several days.

BOOK REVIEWS.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION.

Edited by J. EWING MEARS, M.D. Philadelphia: printed for the Association, and for sale by, P. BLAKISTON, SON & COMPANY. Volume the Third, large octavo, pp. xxxv. 395. 1885. Volume the Fourth, large octavo, pp. xxiii. 339. 1886.

These two handsome volumes form a valuable contribution to the literature of general surgery.

The first paper of volume one, on "Operative Surgery of the Human Brain," by John B. Roberts, M.D., has been reprinted, a brief notice of which appeared in this JOURNAL AND EXAMINER lii. p. 576. The next two papers, one by Samuel W. Gross, M.D., on "Nephraetomy," collates 233 cases, from public and private sources. The various conditions for which the operation is made are given, with the absolute and relative mortality. The second, by L. McLane Tiffany, M.D., gives the particulars of an interesting case of "Nephrolithotomy" by transverse lumbar incision. The short paper of J. Collins Warren, M.D., has been expanded into the volume entitled: "The Healing of Arteries after Ligature, in Man and Animals," recently issued by Messrs. William Wood & Company, and reviewed in volume liii., page 81, of this journal. The most extensive paper by N. Senn, on "Air Embolism," has already been noticed in our columns. It represents a class of work of which there is too

little attempted in this country. The remaining papers relate to the cultivation of surgical bacteria, the surgery of the hypertrophied prostate, traumatic tetanus, phosphorous necrosis of the jaws, and a device for atmospheric purification. The interesting case of cholecystotomy reported by C. T. Parkes, M.D., is among the most brilliant and difficult triumphs of abdominal surgery.

The discussions are clear and concise, and add greatly to the interest of the papers.

Volume four, though some sixty pages smaller than the foregoing, is not less interesting and valuable in its contents. The more important papers are those on "The Union of Nerves," by Moses Gunn, M.D., an exceedingly interesting paper on "Diagnostical Laparatomy," by Christopher Johnston, M.D., followed by a discussion in which the worst points in this surgical procedure are well handled. The chief paper is by N. Senn, M.D., on the "Surgery of the Pancreas." It is perhaps not too great praise to say that both in thoroughness of treatment and accurate reasoning, this paper will compare favorably with any work of a similar scope and character ever performed in this country. The paper contains an excellent resume of the meagre literature regarding the pancreas and its diseases. In addition, the author has gathered a wealth of clinical and experimental data, which are carefully incorporated in such a manner as to place our knowledge of the surgical relations of the pancreas on a sure foundation.

Dr. Prince has added a stove-pipe to his device for atmospheric purification, and the cut of last year (plus the pipe), appears among his remarks in the discussion of Everest's

paper on the "Bacteria of Surgical Diseases." A weather-vane might be added to the structure before it reappears next year.

The editor and the publishers are to be congratulated on the elegant typographical appearance of these two volumes.

HANDBOOK OF PRACTICAL MEDICINE. *By* DR. HERMAN EICHHORST, *Professor of Special Pathology and Therapeutics and Director of the University Medical Clinic in Zurich. Vol. iii.: Diseases of the Nerves, Muscles and Skin, with 157 wood engravings; pp. 390. New York: WILLIAM WOOD & COMPANY. 1886. CHICAGO. W. T. KEENER.*

The third volume of Professor Eichhorst's most excellent work upon the Practice of Medicine, is issued by William Wood & Company, as the sixth volume of "Wood's Library" for 1886.

In section seven, "Diseases of the Nervous System" are more fully treated of in this than in any other text-book on practice. The first part is devoted to diseases of the peripheral nerves, part second to diseases of the spinal cord, part third to diseases of the medulla oblongata, part fourth to diseases of the brain, part fifth to diseases of the sympathetic. Diseases of the muscles are crowded into a space of only six pages. Section seven, comprising 62 pages, is allotted to "Diseases of the Skin."

Under the head of Diseases of the Peripheral Nerves, the pathology is very clearly and correctly given; the symptomatology is clearly and concisely stated, and the electrical degenerative reactions so fully explained that they will be easily understood by one who has been puzzled by the descriptions in Erb's and other books. In this section the treatment is

chiefly electrical; medical treatment is not fully enough explained.

Diseases of the spinal cord, brain and meninges are clearly described. Among special diseases we desire to call attention to the excellent manner in which tabes dorsalis, spastic spinal paralysis, progressive spinal muscular atrophy, amyotrophic lateral sclerosis, cerebral hæmorrhage, tumors within the cranial cavity and the diagnostic preliminary remarks on diseases of the brain are given.

Bend's hypertrophy of muscles is too briefly described, and its treatment receives but three lines.

Diseases of the skin are given in a condensed form, with the nomenclature of Kaposi and with that author's treatment. The section is comprehensive enough to meet the requirements of the general practitioner.

The translation is free, giving a smooth English text. The original work has suffered somewhat by the omission of what the translator, perhaps, thought unimportant paragraphs. A serious fault occurs in the repeated omission of the names of authors whose names appear in the original text.

The printing has been carefully done upon good paper, making a handsome volume. The wood cuts are valuable aids to the interpretation of the text, but are not so distinct and clear as in the original.

F. B.

HANDBOOK OF THE DISEASES OF THE NERVOUS SYSTEM.

By JOSEPH P. ROSS, M.D., LL.D. *Large octavo, pp. xx, 723.* Philadelphia : LEA BROTHERS & COMPANY. Chicago : A. C. McCLURG & COMPANY. 1885.

Students, as well as practitioners, will find in this book an excellent compendium of the diseases of the nervous system.

The work is divided into two parts. The first seven chapters, comprising 234 pages, are devoted to the consideration of the anatomy and physiology of the nervous system, together with a short chapter on general treatment. The remaining part is devoted to the special diseases of the nervous system.

Dr. Ross, in his larger work, "Treatise on Diseases of the Nervous System," has shown himself to be a thorough master and teacher of neurology. The present work fully bears out the high estimate one is inclined to place on any work bearing his name. The attempt to formulate the chief facts in neurology, from the simplest expression of nervous function to the highest psychical manifestations of which the human brain is capable, and to do this within the compass of an ordinary handbook, is a task worthy of the keenest intellect. The work of Dr. Ross, as a whole, marks a distinct step forward in neurological literature. He has to a large extent abandoned some of the older theories, and he approaches the subject purely from the standpoint of the evolutionist. This is clearly outlined in his classification, and the treatment of the different subjects.

The work is concisely and clearly written. Special mention is due the publishers for the handsome manner in which the work is issued.

H. N. M.

ESSENTIALS OF THE PHYSICAL DIAGNOSIS OF THORACIC DISEASES. By E. DARWIN HUDSON, JR., A.M., M.D., *Professor of General Medicine and Diseases of the Chest in the New York Polyclinic, Physician to Bellevue and St. Elizabeth Hospitals.* Pp. 63. New York: STILES & CASH.

This manual was prepared for the use of Professor Hudson's students at the New York Polyclinic, and is of great

assistance to them as a guide to his clinical lectures. It can be of but little value to others, because no one can do justice to so vast a subject within so small a space as the author devotes to it. It contains nothing but what is more satisfactorily explained in the larger text-books.

A careless error occurs on page six, where the apex of the right ventricle is placed in the right mammary region.

"Determining the situation and size of surrounding organs," is given as a *method* of physical diagnosis.

"Bronchial fremitus, produced by bronchitis;" "pitch refers to length of sound-wave;" "over gases pitch is very low, indeed;" "it takes four times as long for the blood to pass through the systematic as through the pulmonary circulation;" "the crepitant *râle* is heard only in two diseases, viz: croupous pneumonia and œdema of lungs," are statements partly or wholly erroneous.

FRANK BILLINGS.

GUY'S HOSPITAL REPORTS. By FREDERICK TAYLOR, M.D., and N. DAVIES-COLLEY, M.A., M.C. Vol. XLIII, 1885-6, pp. 514. London: J. & A. CHURCHILL, New Burlington Street, 1886.

This volume contains numerous plates, woodcuts and other illustrations. The record of the observations of special importance occurring during the year in so large a hospital as Guy's, cannot fail to be one of great interest, both to general and special practitioners of medicine.

The article on "The Pathology of Extravasation of Urine and of Sacculation of the Urethra and Bladder" condemns as incorrect some of the statements on the subject made by Sir Henry Thompson in Holmes' System of Surgery, and

the opinions advanced are supported by illustrative cases, the post mortem conditions of which are carefully described. The article on "Uterine Dilatation" supports the views expressed in the last edition of Barnes' "System of Obstetric Medicine and Surgery," and presents many cases in illustration. The writer of the article, "On the Changes in the Vascular System in Bright's Disease," strongly favors "the view that a simple nephritis is a competent cause of these special morbid changes." Many of the other articles in the volume are as interesting as those referred to, but the limits of this notice prevent enumeration or special mention of them.

E. W.

THIRTEENTH ANNUAL REPORT OF THE SECRETARY OF THE
STATE BOARD OF HEALTH OF THE STATE OF MICHIGAN,
for the year ending September, 1885; pp. xxxviii and 293.

In this volume are included the reports by Dr. George M. Sternberg, United States Army, and Professor V. C. Vaughan, upon the poisonous cheese which caused so much sickness in Michigan during the year from August, 1883, to August, 1884, a full account of the history of which is given in the previous report of the State Board of Health. Dr. Sternberg thinks that the poisonous quality in the cheese is due to ptomaines, possibly developed by the presence of a non-pathogenetic micrococcus, which he found in the samples furnished him.

Professor Vaughan found a substance which forms in needle-shaped crystals, and for which he proposes the name tyrotoxicon. This substance produces symptoms which closely resemble those caused by the poisonous cheese, and Professor Vaughan thinks it is "not of bacterial origin."

This volume is largely given up to meteorological conditions, and communicable diseases in Michigan during the year.

E. W.

INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON GENERAL'S OFFICE, U. S. ARMY. *Vol. VII. Insignares, Leghorn. Pp. [100] and 959.*

In his letter to the Surgeon-General which accompanies this volume, the compiler (Dr. J. S. Billings) says: "This volume includes 14,688 author-titles, representing 5,987 volumes and 12,372 pamphlets. It also includes 6,371 subject-titles of separate books and pamphlets and 34,903 titles of articles in periodicals." It also includes a complete alphabetical list of abbreviations of titles of medical periodicals employed in the index-catalogue.

It is impossible in a notice of this volume to convey an adequate idea, either of the magnitude or value of the work which it represents. It is in keeping with the uniform excellence and completeness of the other volumes of the series, which have been issued from the Surgeon-General's office. This index-catalogue has become a necessity in looking up the literature of any given medical subject, and it is very highly appreciated by those who have learned to know its value.

BOOKS RECEIVED.

The Science and Art of Obstetrics. By Theophilus Parvin, M.D., L.L.D.
Clinical Manual for the Study of Medical Cases. By James Finlayson, M.D.

Wear and Tear, or Hints for the Overworked. By S. Weir Mitchell, M.D., L.L.D.

On Diseases of the Lungs and Pleura, including Consumption. By R. Douglas Powell, M.D.

Hand-book of Practical Medicine. Vol. IV. Diseases of the Blood, and Nutrition and Infective Diseases. By Dr. Hermann Eichhorst.

A Clinical Manual of Diseases of the Ear. By Laurence Turnbull, M.D., Ph.G.

Diseases of the Joints. By Howard Marsh, F.R.C.S.

The Principles and Practice of Operative Surgery. By Stephen Smith A.M., M.D.

A Text-book on Surgery—General, Operative and Mechanical. By John A. Wyeth, M.D.

Transactions of the Association of American Physicians. First session.
Lçons sur les Maladies du Système Nerveux, faites à la Salpêtrière,
par J. M. Charcot.

Collected Papers, Harvard Medical School, 1880–1886.

A Practical Treatise on Obstetrics. By Dr. A. Charpentier. Translated by Egbert H. Grandin, M.D.

Hand-book of Materia Medica, Pharmacy and Therapeutics, etc. By Samuel O. L. Potter, A.M., M.D.

Diseases of Women. A Hand-book for Physicians and Students. By Dr. F. Winckel. Translated under the supervision of Theophilus Parvin, M.D.

On Fevers: their History, Etiology, Diagnosis and Treatment. By Alexander Collie, M.D. (Aberd.)

The Year-book of Treatment for 1886.

Refraction of the Eye. Its Diagnosis and Correction of Its Errors. By A. Stanford Morton, M.B., F.R.C.S. (Ed.)

THE CHICAGO MEDICAL JOURNAL AND EXAMINER.

VOL. LIV.

MAY, 1887.

No. 5

ORIGINAL COMMUNICATIONS.

THE WARMING-CRIB.

BY JOHN BARTLETT, M. D., PROFESSOR OF DISEASES OF WOMEN AND
CHILDREN AT THE CHICAGO POLICLINIC.

[Read before the Chicago Medical Society, May 2nd, 1887.]

While probably for ages it has been the custom on the part of the attendants of women in confinement to secure additional warmth to immature or feeble children, the plan of placing them in a receptacle convenient for maintaining a constant elevated temperature is not common. Such an arrangement, we are told, has long been used at Moscow. Denucé described an incubator in 1857; Credé has used one for a score of years; and, of late, the somewhat complicated incubator of Tarnier has come prominently into notice.

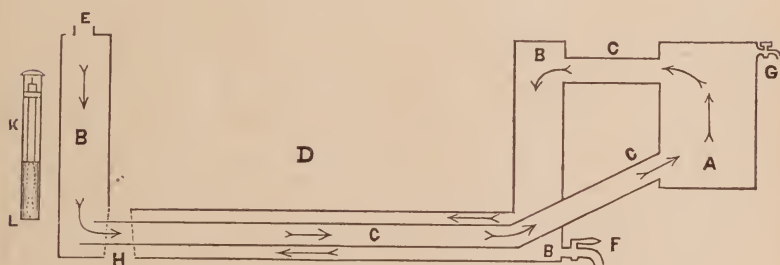
Recently, having urgent occasion to use one of these warming cribs I was called upon to give directions for the manufacture of it. In the literature accessible I found no details sufficient to guide the mechanic, and I was forced to guess at the dimensions of the various parts of the apparatus. With this experience of the need of proper

directions for the making of a suitable cradle, I have deemed it worth while to exhibit one of these useful appliances, and, what is of more importance, to furnish a diagram of one, with measurements, from which an apparatus that will answer all expectations may be constructed by any intelligent artisan.

Credé's cradle consists of two small bathing-tubs placed one within the other, with a water-space between them. It is used by filling the interspace with water at 122 degrees. In four hours this water is withdrawn and the space again filled with a new supply, or the cooling water can be withdrawn by degrees and hot water added as needed. In Tarnier's apparatus, the child, in a cradle-frame, is enclosed in a duly ventilated case made partly of glass; beneath this is a tank of water provided with a boiler and thermosyphon, kept warm by means of a lamp. It is necessary to keep the lamp lighted for a number of hours, and then to discontinue its use for a time, lest the incubator become too hot. Tarnier has modified the apparatus for use in private practice by dispensing with the lamp and replacing the large hot-water tank with a number of smaller flasks. It is necessary to empty and refill one of these every half hour in order to maintain the proper temperature in the cradle-space. It will be seen that each of these three varieties requires a good deal of watchfulness and care.

The crude warming-crib which I present this evening is simple, efficient, safe and, perfectly easy of management. It consists, as you see, of an outer case of galvanized iron, or preferably of copper, and an inner smaller one. Between the two cases is the water area, closed in all around. Standing off some inches from the outer box will be no-

ticed a small boiler connected by tubes with the water-space. The upper of these tubes terminates immediately after entering the water-area. The lower one extends through the lower portion of the water-space, to end near the opposite side of the box. This arrangement is necessary in order to form an effective thermo-syphon by means of which circulation of the water in the water-space may be maintained, and thus an equable temperature of all parts of the crib secured.



WARMING CRIB.

A—boiler; B—water-space; CC—thermo-syphon tubes; D—cradle-space; E—inlet; F—outlet; G—water-gauge; H—safety-vent; K—thermometer-frame, with cup at "L".

MEASUREMENTS FOR SMALLER CRIB RECOMMENDED.

Outside measurement of crib (the figures have reference to the metal case), 26x26 inches; outside depth, 11½ inches; size of cradle-space, 21x21 inches; depth of cradle-space, 9 inches; width of water-space, 2½ inches; boiler, 5 inches in diameter, and 7½ inches long. Pipes, 1½ inches in diameter. Safety-vent, 1½ inches at top; at bottom, 1½ inches. Capacity of water space, 12 gallons. Distance of the boiler from the crib wall, 5 inches.

MEASUREMENTS OF THE LARGER CRIB EXHIBITED.

Outside measurement, 30x32 inches; outside depth, 14 inches; size of cradle-space, 22x24 inches; depth of cradle-space, 10 inches; width of water-space, 4 inches. Boiler, 5 inches in diameter, and 9½ inches long. Pipes, 1¼ inches in diameter. Safety-vent, 1¼ inches at the top; at bottom 1 7/8 inches. Capacity of water-space, 30 gallons. Distance of the boiler from the crib wall, 5 inches.

NOTE.—In arranging the bottom board and castors the carpenter should see to it, that the boiler stands at the proper height to accommodate the lamp to be used. The "Florence Lamp" renders good service.

Leakage into the cradle-space, occurring unobserved, might prove fatal to the occupant. To anticipate such an accident a safety vent is provided. A conical tube is set, with the larger orifice downward, in the bottom of the crib-space. To prevent the ingress of cold air it is packed lightly with absorbent cotton. In the event of water finding its way into the cradle-space it would run into the vent, wet the cotton, and cause it to fall out of the tube, leaving this free to act as a drain.

One of the necessary attachments to such an apparatus is what may be called a thermometer frame. The determining of the temperature of the water by the thermometer, without this peculiar attachment, is very unsatisfactory. The column of mercury falls so rapidly upon removing the instrument from the water that it is impossible in this way to read the temperature accurately. To obviate this difficulty, the expedient has been resorted to of placing the thermometer in a frame-work of metal, so that the bulb and lower part of the stem of the instrument rest in a cup. When the frame and thermometer are removed, the hot water brought up in the cup causes the mercury to retain its level, so that this may be noted at leisure.

It is desirable to encase the metal box with wood, both that the heat may be better retained, and that additional strength be secured. The metal walls are not strong enough properly to sustain the pressure of a column of water ten inches high. They bulge in all directions, indicating considerable strain at their seams. The upward pressure on the bottom of the cradle-space in this incubator is 200 pounds. The outer bottom and sides are therefore sustained by boards, and pressure upward upon the cradle-space bottom is opposed by wooden standards, resting upon the ends of cross strips fitted to this

bottom and held down by slats crossing from side to side over the top of the box.

To use the apparatus, the water-space is filled with warm water, preferably by means of rubber tubing, and the lamp lighted. The water is never changed, and no attention is required further than to so adjust the wick of the lamp as to maintain the bed of the infant at the temperature desired. With a little practice the flame of the lamp can be so adjusted by the eye, and the temperature of the incubator-wall so estimated by the hand, that it will hardly be found necessary to consult the thermometer. A given temperature of the infant's bed may be maintained within a few degrees with very little trouble. The volume of water is so large that variations of temperature of the room, or in the amount of heat applied, are slow to induce a change in the temperature of the bed. In this one a temperature of 92 degrees was generally maintained. It varied between 92 and 86 degrees. It was gradually allowed to fall to the latter point during a number of days preceding the final removal of the infant from the cradle. A temperature of 122 degrees in the water indicated 92 degrees in the bed; the air of the room being at 70 degrees. The gas stove or lamp used under the boiler should be capable of furnishing an abundance of heat; for the large crib here shown a coal-oil lamp with a four-inch wick was amply sufficient. It is convenient to have two of these lamps, so that one may be always ready when needed. The bed is probably best made of horse-hair or cotton; it fills up about one-half of the cradle-space. The babe, dressed as usual, is covered by a woolen cloth, and over this rests a blanket sufficiently large to cover the whole top of the incubator, and thus to roof in the cradle-space, except about the face of the infant.

The incubator may be emptied of water by means of tubing

attached to the discharge-cock. The crib here presented has disadvantages. Intended for triplets, it is very capacious. Its water-space, with a capacity of 30 gallons, is probably unnecessarily large. This renders it difficult to be filled and emptied, and cumbersome to be moved. Probably one of considerably smaller dimensions would be preferable. To the wood-cut prepared to accompany this paper, as published, are appended dimensions for a crib of, as is supposed, a more desirable size.

482 North Clark Street.

EDITORIAL.

IN another portion of this number of THE JOURNAL AND EXAMINER will be found an abstract of a series of articles by Dr. Ernst Brand of Stettin, Germany, upon the treatment of typhoid fever by means of cold baths. This so-called "method of Brand" became very popular, soon after the publication of the author's monograph upon the subject, but it has gradually fallen into disuse, having been displaced by the more convenient and less tiresome antipyretic method. The author reports 19,000 cases which he analyses, and claims that by a thorough and systematic use of his method the common percentage of mortality of from 16 to 20 may be reduced to from 4 to 8, and that even 4 is too high.

The following statement, which he makes, shows the author's faith in his method of treatment: "I do not say that every case of typhoid fever treated with water will recover, but I have said and I repeat, that every case in which the treatment according to the method of Brand is begun before the fifth day, and regularly and thoroughly carried out, will certainly recover."

The standing of the author, as well as the importance of the subject to those interested in internal medicine, render the topic worthy of careful attention.

FOREIGN CORRESPONDENCE.

ANNUAL MEETING OF THE ITALIAN SURGICAL SOCIETY.

CHIAVARI, ITALY, April 15th, 1887.

Special Correspondence of The Chicago Medical Journal and Examiner.

The fourth annual meeting of the Italian Surgical Society was held in Genoa on the 4th, 5th, 6th and 7th of this month. The meeting was largely attended; most of the prominent surgeons of the state were present. Every member reported his subject orally, saving, by so doing, a great deal of time. This enabled the members to get through a large amount of work, and devote more time to the discussions.

The meeting was opened by the President of the Executive Committee, Professor Durante, of Rome. He eulogized in a few well-chosen words the memory of the late Professor F. Margary, describing the progressive, loyal and sincere character of the deceased. He then presented the annual financial report of the society; after which he gave the chair to Professor Azzio Caselli, President of the Society, who welcomed in the name of Genoa the members present. The presentation and discussion of subjects were then proceeded with.

Professor Ceccherelli of Parma, who was announced to lead the discussion of post-operative fever, entertained the society instead on the operation of supra-pubic cystotomy for the relief of vesical tumors. He had performed this operation on a man 70 years old, for a malignant growth of the bladder, with success. He spoke at length on the

diagnosis of these cases, especially regarding hæmorrhage as a symptom.

Professor Novaro, of Siena, read a very interesting communication on an experimental operation performed in January on a dog, for the insertion of both ureters in the rectum. The operation was successful and the dog is now living and doing well. This operation was partially, and without good success, attempted by Gluck and Zeller of Berlin. Bardenhauer of Cologne succeeded with only one of the ureters. Professor Novaro thought that in cancerous tumors of the bladder the complete extirpation of the bladder ought to be performed in two operations, reserving the exportative for the last. Scooping such a fragile organ only resulted in harm; moreover, only arrested the hæmorrhage for a few days. The members applauded Professor Novaro for his successful result.

Professor Ruggi, of Bologna, entertained the society on several laparotomies performed last year with good success.

Dr. Lampugnani, of Turin, described a modification which he had adopted in the decapitation of the femur for the relief of congenital dislocation of the hip joint.

Professor Ceccherelli reported a number of experiments on the surgery of the stomach. He also related two cases of craniotomy for the relief of tumors.

Professor De Rossi, of Rome, reported several malignant tumors of the mastoid process. This communication gave rise to a lively discussion, in which Professors Bottini, Novaro, D'Antona, Durante and others joined.

Professor Paci, of Pisa, reported a total removal of the scapula and three partial ones.

Professor D'Antona, of Naples, reported several cases of

ascites treated with drainage. He also reported several laparotomies.

Professor Paci referred to an old traumatic iliac dislocation of the femur treated with the femoral decapitation.

Professor Durante spoke at length on tuberculosis and pseudo-tuberculosis of bones and synovial membranes. He called it an exaggeration to believe all chronic articular lesions tuberculosis. There are many inflammatory forms which may be mistaken for tubercular products. He presented a number of anatomical and clinical facts to prove his assertions.

Professor De Rossi called attention to the good results obtained by him in the treatment of osseous and articular tuberculosis with sea-baths. He showed photographs of many patients cured without operative procedures.

Professor Paci related the history of three cases of club feet. Two of these were cured with the removal of the astragalus, and the other with the resection of the nervous branches entangled in the ankle-joint from an epiphyseal separation.

Dr. Lampugnani spoke on the treatment of varus-equinus, and in particular on the extirpation of the astragalus. These subjects were discussed by Drs. Bottini, Novaro, Durante, Ceci, Postensky, D'Antona and others.

Dr. Tricomi, of Naples, made known his clinical and experimental researches on some suppurative processes. He had always found present the staphylococcus aureus, never the albus. Professor Ceci on the contrary had frequently seen the albus.

Dr. Tricomi also spoke on the antiseptic properties of iodol and iodoform. He had found iodol far superior as an antiseptic.

Professor Ruggi presented to the society a new cystotome. He had invented it for those who were not familiar with

lithotomy; with it they could operate without fear of failing. The ingenious instrument consisted of a staff, in which was concealed a trocar. The staff was introduced in the bladder, and by turning a screw the trocar could be made to cut from within outwards. The instrument was not favorably received by the members. Professor Novaro thought the instrument was too complicated. Our surgical instruments ought to be simplified. Such instruments as the one in question would spoil surgery.

Professor D'Antona said that lithotomy had now reached such perfection and facility that we ought to consider as superfluous any other new method of performing it. Professor Ruggi defended his cystotome. He had not invented it for teachers of surgery. He invited the members to the dead-house, where he would illustrate its working on the cadaver.

Professor Durante made a report of four cases in which he showed the utility of an artificial anus, as a preliminary treatment in cancerous condition of the rectum. He also reported a case in which he had ligated the innominate artery for the relief of a subclavian aneurism with perfect success. He had used catgut, to which he attributed a great share of his success. He said that this case was the nineteenth on record, and, with that of Dr. Smythe of New Orleans, the second successful one. The Professor was highly complimented by all present.

Professor Novaro reported a successful case of cholecystotomy—the first one on record in Italy. A patient, female, 43 years old, suffered several times from bilious colic. When brought to the hospital she was suffering with pain in the region of the liver, was feverish, jaundiced and suffered from vomiting. Bile feces were wanting. A tumor was detected over the liver, which was immediately diagnosed as an enlarged

gall bladder. On investigation pus, bile and mucus were obtained. The patient did not improve. The operation of cholecystotomy was decided upon. An incision was made over the tumor, the abdominal wall cut through, the gall bladder found, incised, and stitched to the sides of the external wound. A large stone was found lodged in the ductus, and was removed with great difficulty. The wound was dressed, but a fistulous opening remained, through which bile continued to be discharged. After three months, the fistula showed no tendency to heal, and the edges were touched with lunar caustic and made to granulate, and gradually it healed. The patient is now enjoying good health, and has had no sign of her former trouble.

Dr. Bonanno, of Rome, reported a case of an extra-uterine pregnancy, in which the sac and the fœtus were situated on the anterior portion of the body of the uterus. How the ovum got there he could not explain. The patient, in the sixth month of pregnancy, feeling no longer the movements of the fœtus, consulted him, and he, after a careful examination, made a diagnosis of death of the fœtus. He performed laparotomy, removed the dead fœtus and the sac, and the patient made a good recovery.

Professor Ferrari, of Parma, spoke on the ætiology of tetanus. From several experiments made in his clinic and laboratory he thought tetanus to be due to a specific microbe (a staphylococcus); he was continuing the experiments, and he would at the next annual meeting make known his final conclusions. Professors Ceci, Tricomi, Berti, and others discussed this subject.

Professor Caselli, of Genoa, spoke on the subject of tracheotomy, and showed some modifications which he had made in the instrument. He modified the tenaculum in

having it grooved on the convex side, so that, with the help of a grooved director, he could be enabled to quickly slide the tube on to the trachea. The quicker one can put the tube in the wind-pipe the better will be the result of the operation, for the secret of success lies in preventing any blood from entering the trachea. He produced statistics of 132 operations with 53 recoveries, while since his modification he has had 13 recoveries in 18 operations, a remarkably good showing. During the discussion I was very much surprised at not hearing any allusion made to the process of intubation of the larynx.

Professors Ruggi, Lampiasi, Rubino, Crespi-Morini, and D'Antona, each presented photographs of patients for whom they had performed Estländer's operation for the relief of empyæma.

Professor Ceci related a case in which he had trephined the skull of a patient brought to the hospital in a hemiplegic and comatose condition, resulting in complete recovery. He also related several successful plastic operations. He also showed to the society a patient from whom he had last year removed the spleen. She has since been enjoying good health, and has increased $7\frac{1}{2}$ kilograms in weight. On examining her I noticed that the thyroid gland on the right side was becoming enlarged, as were also both tonsils. I leave it to the physiologists to explain this condition.

Professor Ceci, also showed another patient from whom he had removed the upper half of the scapula, leaving the periosteum. The whole bone was reproduced, together with the spine and processes.

Dr. Celsus Motta, of Genoa, presented a patient in whom he had preformed a resection of the knee-joint according to

Caselli's method. This method has given excellent results in his clinic in Genoa; and, as it is simple and easy, I will endeavor to briefly describe it :

The articulation is opened with a semi-lunar incision, which begins and terminates four centimeters above the condyles, cutting the ligamentum patellæ at its middle. Having dissected and raised the flap so formed, we expose the femoral epiphysis which is resected. This resection is performed with the saw, and is made beginning two centimeters above the anterior inter-condyloid notch, and terminating at the insertion of the crucial ligaments. With this section we expose, as we readily understand, not only the spongy substance of the epiphyses, but also the epiphyseal cartilage and the spongy substance of the inferior extremity of the diaphysis of the femur. It permits us, therefore, to minutely examine this part, and if any diseased points are found they can be removed with Volkmann's spoons. For the tibia it is sufficient ordinarily, as has been noted by König, to perform a section of the cartilaginous meniscus, or of the most superficial layers of the epiphyses. This can easily be done with the scalpel. Finally, to complete the resection, we remove, where it is possible, the articular capsule; if not possible, we excise the synovial membrane and scoop accurately with Volkmann's spoons. This operative process has the great advantage of permitting the removal of the morbid portion of the spongy substance of the femur, preserving most of the epiphyseal cartilages. The crucial ligaments are not touched, and therefore we preserve the normal anatomical relations of the extremities of the bones, while in Volkmann's process the bony ends are completely dissected, and by so doing the whole articular cavity is exposed.

Professor Caselli's method does not alter the length of the

femur, nor of the tibia, nor their normal relations; therefore there is no shortening.

Dr. Caneva, of Genoa, followed with an excellent paper on the transplantation of the tendonous insertions in the bones.

Professor Caselli made a report of several removals of intracranial tumors. He also related a case of extrophy of the bladder.

Professor Bassini, of Padua, described a new operation for the radical cure of inguinal hernia, practiced by him with success; it was unanimously approved. The learned Professor was made the recipient of many complimentary remarks.

Professor Bonora entertained the society on the subject of ovariectomy, reporting a number of cases. He also reported a successful operation of a resection of a piece of gangrenous intestine.

Dr. Muguai, of Rome, reported many resections of the knee-joint.

Professor Roth spoke on the supra-pubic operation for the extraction of vesical calculi.

The election of officers for the ensuing year then occurred, with the following result: Professor Antonio D'Antona, president; Professors Bottini and Corradi, vice-presidents. Naples was chosen for the next place of meeting.

A. LAGORIO, M.D.

DOMESTIC CORRESPONDENCE.

CALCAREOUS CONCRETIONS IN THE EXTERNAL EAR.

To the Editor of the Chicago Medical Journal and Examiner.

The following case, occurring in an old patient of mine, has seemed to me to be unusual. I had treated the patient for several years for slight ailments, chief of which was an occasional malarial attack that gave me some trouble on account of her inability to take quinine.

Last winter she suffered from the vomiting of pregnancy. I treated the case for about two months without result, when, as the symptoms became alarming, Dr. Byford, at my request, brought on a miscarriage. She was, of course, much prostrated and her stomach remained for a long time irritable and there were distinct evidences of spinal anæmia, neither of which symptoms have yet entirely disappeared.

Her recovery, though slow, was uninterrupted, with the exception of an induration on the calf of the left leg where a hypodermic needle had been inserted. This induration gradually assumed the size of half a pullet's egg, became red and tender, and finally fluctuated distinctly under the finger. I delayed opening it, and, under the application of poultices it finally disappeared, leaving a depression somewhat more than an inch across. The depression still remains. I give these details, as they may have some bearing on the subsequent history of the case.

In August last, she called my attention to a painful swelling in the external meatus of the right ear. I considered it

to be a case of ordinary superficial inflammation of the meatus, and directed instillation of a solution of morphine. The pain at once ceased, and in a day or two the swelling subsided and I supposed that the trouble had resolved, as has usually occurred in my experience, after such treatment. But a little swelling and tenderness remained. In about two weeks, without further symptoms than a trifling uneasiness, there was a discharge of a drop of purulent fluid which I am sorry that I had no opportunity of examining. I paid no more attention to the case until about a month after this, when she called at my office and told me that the same morning the ear had felt a little uncomfortable, and on picking it a calcareous mass about as large as a millet seed had come away. A day or two before she had removed a similar mass. These masses, she said, resembled lumps of old lime as nearly as anything she could think of.

On examining the ear I saw a red and indurated place about half way down the meatus in the upper portion of the posterior wall. In the middle of this spot was a pit about as large as the mass removed, and surrounding the pit a greater or less amount of a white granular substance, which grated against the probe and was of stony hardness. I attempted to detach some of it with the sharpened end of the probe, but it was firmly adherent, and appeared to be infiltrated throughout the tissue, and I succeeded in getting away only a few small flakes. Besides this, nothing unusual was detected in the ear with the exception of a slight redness of the posterior rim of the drum. The hearing was perfect. A slight feeling of irritation was noticed for some weeks, but gradually passed away. At present, so far as I can discover, the ear is quite normal.

I do not think that there is any possibility of the concretion being a foreign body; nothing with the exception of the morphine was introduced into the ear, and that could hardly have produced such an effect; besides, part at least of the substance was infiltrated among the tissues of the meatus.

Superficial abscesses where there is a free discharge of pus do not undergo calcareous degeneration.

The appearance was that of a gouty concretion, and there is a trace of gout in the family, her father,—though an active and abstemious man—having had slight attacks of the affection; but she has never had any gouty symptom that I have been able to discover, and gout does not suppurate.

I have never heard of a case like this, and the somewhat limited amount of literature on diseases of the ear accessible to me makes no mention of anything of the kind.

LESTER CURTIS, M.D.

35 University Place, Chicago.

SOCIETY REPORTS.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, March 21st, 1887.—THE PRESIDENT, EDMUND J. DOERING, M.D., in the chair.

DR. JAMES I. TUCKER reported a case of "Herpes Ophthalmo-brachialis," which appeared in the April number of the JOURNAL AND EXAMINER.

DR. JOSEPH ZEISLER, in opening the discussion, thought cases of herpes zoster were comparatively rare here; in the last two years he had met with only one, affecting the fourth and fifth intercostal spaces of the right side. Although physiological and anatomical examinations have not yet proven the existence of true trophic fibres in the nerves, there can be no doubt that zoster must be considered as a tropho-neurotic disease. The case was especially interesting from the possibility of syphilis being the cause of the disorder, and from the large area involved.

DR. TUCKER said that one point in reference to herpes zoster, especially herpes zoster frontalis, is that chronic bronchitis is sure to follow it, and life generally terminates in that way.

PROFESSOR CHARLES WARRINGTON EARLE asked if the author had not found that these cases almost always require the same tonic treatment that neuralgias do, viz., the exhibition of quinine and iron, and a good, generous diet, before a cure can be effected.

DR. TUCKER replied that all the patients that he had seen suffering from the disease have been depleted, and certainly the remedies just mentioned would be needed.

PROFESSOR E. L. HOLMES reported a case of

CHANCRE OF THE EYELID.

Cases of chancre of the lids are of interest, not so much on account of their rareness, as of the difficulty in establishing a certain and early diagnosis, and the fact that suspicion even may not be awakened till quite late in the development. It is many years, probably twenty, since he had seen a case of primary specific sore on the genital organs. If he remembered correctly what he formerly observed, and what he learned from competent authorities, it is undoubtedly true that even an ulcer on the genital organs cannot always be easily diagnosticated. The swelling of the pre-auricular glands is quite often the result of simple abscess of the lids, especially if it is situated near the external angle. When, however, a circumscribed

disease of the lids is accompanied by multiple pre-auricular and submaxillary glandular enlargement, suspicion becomes almost certainty. This has been the fact in four of the five cases which he had seen. In one case there was not sufficient swelling of the glands to attract either his attention or that of the patient.

Some months ago he had mentioned in this Society the case of a laborer in a rolling mill who received a severe burn on the side of the body from a "flash," and on the left upper lid from a drop of the molten slag. That small round burn became infected from some source unknown to the patient, and after some time presented the appearance of a true chancre with glandular swellings and characteristic eruptions. No evidence of a lesion could be found on the genital organs. Every symptom disappeared under energetic mercurial treatment.

Very recently Mr. P. M., 45 years of age, married, also a workman in a rolling mill, received a "flash," a portion of which struck the left upper lid and inflicted quite a severe burn of the integument. The conjunctiva was also slightly burned. At the end of a week the patient came to him with the lids much swollen, red and tender, with a hard, dry, thin and red incrustation as one sees on a superficial abrasion of the skin. The patient stated that he had rubbed the lids several times during the week with the back of his hand, which was more or less covered with grime and sand. He did this to relieve the irritation of the eye. There was nothing in the appearance of the lids or of the eye to excite suspicion of any complication. For ten days the eye was treated with mild lotions and ointments without the slightest benefit. On the appearance of pre-auricular and submaxillary swelling the patient was referred to Professor Hyde. Professor Hyde could simply suspect specific infection, but preferred to delay definite opinion for a few days. In a week or more the characteristic eruption appeared, with increased severity of the local symptoms. Large doses of blue mass and iodide of potassium relieved all the symptoms, local as well as general. The eye assumed its normal appearance in about three weeks.

PROFESSOR F. C. HOTZ said that as the author wished the discussion to be conducted on the line of experience of general practitioners, not specialists, he hardly felt that he was the right person to open it. As the author stated, these primary syphilitic ulcerations, chancres of the eyelids, are of very rare occurrence, and in a long experience of private and hospital practice in this country and Europe he could remember but one case coming under his observation of a primary syphilitic sore, and it was located on the conjunctival surface of the upper lid—a most curious place for the infection. A patient came to him about two years ago with the lid tender and very much swollen, and on turning it he saw a large ulcer with all the typical appearance of chancre of the prepuce. There was no doubt of its syphilitic character, but it puzzled him as to how the infection could have taken place there. On questioning the patient he learned that four or five weeks previously he got a little cinder or something in his eye,

and his room-mate turned the upper lid, saw the foreign substance, and removed it with his tongue. Further questioning brought out the fact that this man was syphilitic.

DR. JOSEPH ZEISLER mentioned the possibility of contamination by kissing and by instruments. The most peculiar cases of chancre, in regard to the locality, had been related by Deloir in his "*Discours sur le Syphilis*," some of which could only be explained by certain French habits.

PROFESSOR WILLIAM T. BELFIELD said, in reference to one point raised by Professor Holmes, viz., infection without ulceration, he thought it was a well known fact that it has frequently occurred. There is nothing about syphilitic infection that implies ulceration. The morbid material is introduced into the skin and occasions a certain amount of inflammation at the point of infection. Whether that results in ulceration depends on the nutrition the parts receive; if they are well-nourished there need be no ulcer, but as a rule some of the cells that are formed die and ulceration is the result. Occasionally the inflammation is so slight that neither ulceration nor even induration is produced locally; since syphilis is undeniably inoculated—in exceptional cases—without the production of any features of the hard chancre. Nor is the syphilitic the only virus whose local effects are thus variable; thus, the virus of charbon, or "wool sorters' disease" while usually producing a malignant pustule at the point of inoculation, may be communicated without any local ulceration—indeed by simple inhalation.

PROFESSOR D. A. K. STEELE read a paper entitled

INTUSSUSCEPTION IN INFANTS.

Intussusception or invagination of the upper into the lower part of the intestine, embraces three layers of the bowel which include all the coats of the intestines. The diagnosis of intussusception in an infant is usually an easy matter; a baby previously in good health is taken with sudden violent vomiting, with loud cries and evidence of abdominal pain and uneasiness occurring at frequent irregular intervals, accompanied with severe straining and the passage at first of fecal matter, then a mucous tinged with blood, and later of blood alone in considerable quantities. Thirst, anxious expression and collapse are marked symptoms. A distinct sausage shaped tumor can frequently be felt at the seat of the obstruction in the abdomen.

Treatment may be divided into medicinal, mechanical and operative. The medicinal plan is palliative but rarely curative.

The author described the details of the mechanical plan of treatment as follows: Having clearly established a diagnosis of intussusception and previously given an opiate to quiet all peristalsis, he anæsthetizes the child with chloroform and then carries a rectal tube or large catheter about six inches within the anus. He attaches to this tube a flexible rubber tube two or three feet long attached to a small glass funnel. Into this funnel are poured alternately solutions of soda bi-carbonate and tartaric acid, thus generating carbonic acid gas and rapidly and safely inflating the large intestine. Three drachms of each will generate enough gas to completely

distend the colon of a child. If this pressure is not sufficient to relieve the obstructions, he attaches an ordinary double bulb syringe and inflates with air about as much as he thinks the bowel will stand; while the abdomen is being carefully manipulated by an assistant, he patiently, persistently and repeatedly employs these measures coupled with massage, abdominal taxis, inversion of child, etc., from twenty-four to forty-eight hours, when, if there is no relief he advises laparotomy. In case the obstruction is at the ileo-cæcal valve and is irreducible and an artificial anus cannot be readily formed, an ileo-colotomy or implantation of the divided ileum above the obstruction into a slit-like orifice in the colon below the obstruction would be justifiable procedure. Senn's recent experiments on animals prove that it can be done with success. Several cases were reported which had been successfully treated by the mechanical method.

PROFESSOR C. W. EARLE, in opening the discussion, said that Professor Steele had presented the symptoms of this terrible difficulty so fully that there is little more to be said. He was glad that the author dwelt upon the symptom of constriction of part of the bowel, which is probably one of the chief causes for this accident. He must take issue with him in regard to the ease with which he diagnosticates some of these cases. Professor Steele's experience has been very different from his own when he is able to say that the diagnosis of intussusception in a child is made out without much difficulty. In a number of cases he has seen there has been an absence of all the symptoms which the author has narrated. He remembered a case which occurred several years ago in an outside village, in which he made the post mortem examination and found a very distinct intussusception. In that case we could get none of the symptoms spoken of; there was no tenesmus, no bloody discharge, no protrusion of the invaginated portion of the intestine, no sausage-shaped tumor of the abdomen, and yet the child had intussusception, probably from eating a large amount of cherries as a number of cherry pits were found in the bowel at the autopsy.

As a medical man it might be expected that he would oppose a surgical procedure, but the medical treatment of this difficulty is so absolutely hopeless that it seems to him if laparotomy offers anything at all we should be ready to accept any procedure the surgeons have to offer. However, the results of Professor Steele's process of treatment by inversion, and shaking and filling the bowel are really better than those of surgeons up to this time. It is a well known fact that laparotomy for the relief of intussusception is followed by greater mortality than laparotomy for any other cause. But if the diagnosis is well made out, and particularly if the pulse is rapid and the child shows profound symptoms which point unmistakably to this difficulty, it seemed to him that we are hardly justified in waiting three days; he thought at the end of twenty-four hours we should cease to try the ordinary methods and proceed to do the operation.

PROFESSOR F. E. WAXHAM said he agreed with Professor Earle in regard to the difficulty of making the diagnosis in cases of intussusception,

especially in infants. In many cases he thought the diagnosis very difficult, and sometimes a certain and absolute diagnosis is almost impossible. This is true for the reason that all the symptoms that have been enumerated as characteristic of the disease are not present in every case. The tumor is as frequently absent as present; if a small amount of intestine is involved in the intussusception it is impossible to detect it. Again, the bloody discharges are frequently absent, and the protrusion of the intestine from the anus, which is given as a prominent symptom, is often absent. Indeed, in many cases the incessant vomiting, obstinate constipation and the tenesmus are the only symptoms. He would refer to the differential diagnosis of intussusception: fecal impaction occasionally presents symptoms analogous to intussusception. Impaction is rare in infancy, but is more frequently observed in the adult and in the older children. It may give rise to a tumor, vomiting, tenesmus, tympanites and even protrusion of the intestine from the anus. These symptoms closely resemble those of intussusception, but in impaction the vomiting is not usually as obstinate and large; copious enemata will cause the disappearance of the impaction. Again, in impaction we do not get the rapid and great prostration that is observed in intussusception. Cholera infantum may be mistaken for intussusception, for we have the same rapid and great prostration and collapse, we have the incessant vomiting, but in cholera infantum we have the large, copious watery passages instead of the obstinate constipation followed by the bloody discharges. Dysentery presents symptoms closely resembling intussusception in many cases; we have vomiting, tenesmus, frequent straining, bloody passages and not unfrequently protrusion of the intestine from the anus, but in dysentery the vomiting is not so obstinate nor the prostration so great. Typhlitis may present symptoms very closely resembling intussusception; as the result of inflammation at the ileo-cæcal valve we will have vomiting, intestinal pain, tympanites—obstinate constipation which it is impossible oftentimes to overcome. The diagnosis in these cases is very difficult, and he said he knew of one case of typhlitis where several surgeons thought seriously of operating for a suspected intussusception.

But in typhlitis the tumor, which results from inflammation and infiltration is in the right side, while in intussusception the tumor when observed is in the left iliac region or in the transverse colon, for although the intussusception takes place at the ileo-cæcal valve, if the tumor is large enough to be observed, the smaller intestine rolls in the larger until the tumor appears in the left side instead of the right. In typhlitis we have a history of acute inflammation, not so in case of intussusception. Peritonitis will also frequently give rise to symptoms resembling those of intussusception; we have frequent vomiting, obstinate constipation, abdominal pain and tympanites. He remembered a case that was treated for several days for intussusception, and not until the administration of morphia and lime water was the vomiting overcome and a correct diagnosis made. The vomiting could not have been relieved by medication in a case of intussusception. In peritonitis we usually have the gradual onset of the disease,

more sudden in case of intussusception. In peritonitis we have the symptoms of acute inflammation existing for several days before we get symptoms of obstruction. In intussusception the symptoms of obstruction and shock appear early. In peritonitis, although the constipation is often obstinate, yet the vomiting is not as frequent and uncontrollable as in intussusception, nor do we have the rapid prostration in the former disease that is so characteristic of the latter. There are other forms of obstruction, such as the twisting of the intestine upon itself, pressure upon the intestine by a band of lymph, or strangulation of the intestine in a congenital opening in the diaphragm, any of which will give rise to symptoms exactly corresponding to intussusception.

In regard to the treatment, little remained to be said. Not infrequently, when an intussusception is suspected, the cases are treated with physic, castor oil, croton oil, or quicksilver, in order to prove the diagnosis. This treatment should be mentioned only to be condemned. No remedies should be given that will increase the peristaltic contraction, but opiates given to prevent it. Quicksilver may be used with benefit in those cases where the invagination is low down in the bowel, or where the intussusception is of such extent that it reaches into the lower bowel, or perhaps near the anus. In such cases the child should be inverted and the quicksilver used per rectum, and the pressure and weight of the quicksilver will assist greatly in the restoration of the invaginated mass. He fully agreed in the recommendation of laparotomy in cases where mechanical measures fail. When we have faithfully but unsuccessfully tried medicinal and mechanical measures, he thought we should resort to laparotomy, providing a positive diagnosis can be made, and we should not delay too long, for the longer the operation is delayed the less the chances are of recovery.

PROFESSOR A. E. HOADLEY wished to make one suggestion as to the surgical treatment of such cases. The author, on going into the surgical treatment thoroughly, had left the idea, he thought, that about all that can be done for cases of acute invagination of the intestine is to unfold the invaginated intestine, and if this cannot be done, it must be excised and an artificial anus made. Of course he does not advise the resection of the invagination, but advises an artificial anus as a temporary means. Where invagination is acute it obstructs the lumen of the intestine, and all the urgent symptoms are consequent on the obstruction of the bowels, not because the tissues are liable to ulceration or sloughing, provided that the tension above the invagination is promptly relieved. If the tension above the stricture is relieved the tissues at the stricture can take care of themselves, the strangulation will be immediately relieved in a measure, so that the circulation can be carried on at the seat of invagination. Relief of tension controls peristalsis, and no further invagination will take place, congestion will be relieved and the tissues saved. There has been an operation suggested for that purpose which is applicable in all cases where to unfold the invagination is more dangerous than to leave it alone or

excise and establish an artificial anus. The operation is to bring that portion of the bowel above the invagination to that immediately below and there make an opening in each, stitch the openings together, and thus form an outlet for the distended intestine above. In case the invaginated portion loses its vitality there is no objection to its sloughing, as the slough can readily pass down, as the gut is not closed above. In his own practice he had seen two cases of recovery from intussusception, in which there was no doubt about the diagnosis; in one case a sausage-shaped tumor could be felt across the median line, with all the acute symptoms except, perhaps, the bloody discharges. The invaginations in these cases were of the colon, and not ileo-cæcal, and the lumen of the gut was not completely closed. There was no particular distension, but there was a large and painful tumor, with tenesmus and diarrhœa. In one case, in which the diagnosis was confirmed by several physicians, the tumor remained for more than a year, and at any time, if pressure was made over it, there would be tenesmus of the bowel; yet the child, who is now 8 years old, fully recovered. He then had a patient under treatment in whom two and a half months ago there was probably intussusception of the colon. A painful tumor presented on the left side which could be plainly felt from day to day, associated with all the irritable symptoms of the bowels, but the invagination did not occlude the lumen of the bowel, therefore the most distressing symptoms were absent. The tumor gradually grew smaller, less tender, less painful, and the child became free from the irritation caused by that invagination.

Dr. J. FRANK asked if, when the invagination is situated above the ileo-cæcal valve, water injected would pass the valve itself? He hardly thought the small amounts that the author spoke of having injected would have reduced the invagination. Dr. Frank was not opposed to giving cathartics in cases where they might do good, and thought sometimes they do not do as much harm as an operation. The intestines are held up by mesenteries, and if the principal part of the intestine cannot invaginate itself where it is held fast it cannot come down. A cathartic produces peristalsis which is always towards the rectum, and if the part is held up by the mesentery, the peristaltic motion will not bring it down any further, and yet will relieve the intussusception. He thought many cases are cured by cathartics. He had a case some time ago where the child was pulseless and cold, the eyes turned in the sockets, and there was tenesmus and vomiting. After trying nearly everything a large dose of calomel was given, and as soon as there was a movement of the bowels the child was all right.

PROFESSOR STEELE, in closing the discussion, said, in regard to Professor Earle's query as to the ease of making the diagnosis: the diagnosis is not always an easy matter. In the first case reported the diagnosis was easy, because the case presented the symptoms laid down in the books as nearly as could be: there were vomiting, tenesmus, bloody stools, absolute constipation and a lozenge-shaped tumor—but that is the only case of the

four reported in which there were all the symptoms; in two there were no tumors, and in one the tumor was indistinct and irregular in outline. There was no pain in that case. In none of the cases was the diagnosis verified by post-mortem examination. There is an element of doubt as regards the diagnosis, but it had been formed in each case, after careful examination by competent physicians, and was considered fairly certain. In regard to the relative safety of ether and chloroform in children, he could not give the statistics, but the administration of chloroform to children is a very safe procedure as compared with its administration to adults. In regard to the differential diagnosis, Professor Waxham presented all the points very fully. In a paper of this character he did not wish to go into that subject. In regard to the operation of cutting the bowel above and below the point of obstruction, that he alluded to as an operation having been done experimentally on animals with success by Professor Senn, of Milwaukee. So far as he knew, there are no statistics showing that it has been done on man. The case of obstruction occurring in a child, with painful tumor, spoken of by Professor Hoadley, was a case of chronic obstruction in which the lumen was not perfectly occluded, and those cases are not dangerous. So long as the lumen is not absolutely interfered with the processes of nutrition go on. Cases of chronic obstruction were not considered in the paper; he spoke only of acute obstruction due to intussusception. Water passes the ileo-cæcal valve by dilatation from over-distension. He had seen the experiment tried on animals; by opening the abdomen and forcibly injecting water, the colon would become distended to its utmost capacity, and by-and-by the tissues would begin to yield, the valve would become incompetent and the water would pass. The quantity of water used for injections was smaller than if the obstruction had been higher up. The case of acute obstruction mentioned by Dr. Frank, that was relieved by a large dose of calomel, was probably acute enteritis, such a case as would have been relieved by bleeding many years ago. When we are called to these cases of acute intestinal obstruction where there is a doubt as to its cause, we should take into consideration all the factors; the age of the child, the sex, the suddenness of the onset, the presence of a majority of symptoms that are said to be present in intussusception, and then make a thorough, complete and systematic palpation of the abdomen, aided, if necessary, by the distension of the colon with carbonic acid gas. By the alternate injection of an acid and alkaline solution into the rectum, one can distend the colon so that it can be mapped out perfectly, and the location of the obstruction be determined.

PROFESSOR ELBERT WING exhibited some pathological specimens, and said that these specimens were obtained at the County Hospital and had been brought immediately, because specimens are more interesting when they are fresh. The case came to the dead-house without any history except that the man was known to have had some trouble with his heart. The internes were careless, and no careful record was kept. The man was about 60 years old and very fat. There was no fluid in the abdominal cavity. The pericardium contained perhaps 30 cu. cm. of clear serous fluid, and the

heart was considerably larger than the man's fist, with one or two of the so-called "milk-spots" on the surface. The right auricle was distended with dark, partly clotted blood, the right ventricle contained a very small quantity of fluid blood and a small clot; the left auricle and ventricle were empty. Upon section the heart showed no lesion of the valves; there was slight atheroma at the base of the aorta. The endocardium showed the streaks and bands of grayish discoloration which are taken as evidence of chronic endocarditis; there was also, over the surface of the endocardium, the mottled appearance of myocarditis with fatty degeneration. The left pleural cavity was empty and without adhesions. The surface of the lung presented a few spots of emphysema, and upon section the bronchial tubes were found extremely congested and lined with a thick coat of mucus throughout the bronchial tree. On the right side there was an adhesion along the median line, and the pleural cavity contained 3,700 cu. cm. of a clear serous fluid, slightly reddish, containing no shreds and no plaques of fibrin. The entire costal pleura of this side was much thickened, of a slightly velvety appearance and bright red color, easily separated from the underlying tissue and easily torn in manipulation. The deposit of fibrin could be removed only by considerable force, and the pleural surface then showed manifold small red dots, resembling the mouths of severed capillaries. Completely covering the surface of the right lung there was a film of lymph which varied in thickness from that of a heavy sheet of blotting-paper to 1 or 2 millimetres. Over the lower lobe this had taken on organization, and contained bands of connective tissue. Throughout the extent of the visceral layer of the pleura it could be removed, leaving the surface smooth and glistening. The lung on the cut surfaces was of a steel-gray, mottled with spots of pigment discoloration. It was completely devoid of air, and a piece cut out from it and thrown into the water would sink. Upon the superior border of the spleen there was a small plaque in which the connective tissue of the capsule was largely increased. The cut surface of the organ presented a mahogany color and as a whole was quite firm, verifying the diagnosis of what we would expect to find in such cases, chronic passive hyperæmia of the spleen causing an increase of the connective tissue. The kidneys were hardly enlarged at all, the capsule was not thickened and was easily removed. Upon section the cut surfaces of each of the organs was a very dark red color, the vessels all full of dark-colored blood, and the organs slightly firmer than normal. The left lobe of the liver presented a peculiar appearance. It looked and felt a little granular, which seemed to be due to a wrinkling of the capsule. There was a similar appearance along the anterior border, and near the line of the suspensory ligament. That large spot was triangular upon the surface, say 5 cm. along each side, and extended into the organ in a pyramidal shape, the apex being near the hylus of the organ. The line of demarcation between the wrinkled and the unchanged surface of the organ was sharply defined. On section these portions of the organ presented the characteristic appearance of advanced simple atrophy, a dark brown slate-color, the lobule distinct but very much diminished in size. That portion

of the organ not described was in the condition known as "nutmeg liver." The omentum was in a condition rarely seen. It was 25x12x1½ cm., somewhat lobulated, and along the anterior surface there were broad radiating bands of fibrous tissue. The organ as a whole was very firm and solid, and on section little lobules of fatty tissue could be isolated. The condition was that of marked hypertrophy of the fatty tissue of the organ, together with a great increase of the connective tissue, the latter due to chronic passive hyperæmia, the former part of the general marked increase of adipose tissue throughout the body. There was also considerable œdema of the right leg, but no thrombosis in the iliac vein. Examination of the veins outside of the abdominal cavities was not permitted. With the conditions described as a basis, the diagnosis was: chronic endo-myocarditis with fatty degeneration; chronic pleuritis (costal) with effusion, atelectasis from compression, right side; chronic passive hyperæmia of spleen, kidneys and liver, with added circumscribed simple atrophy of the latter; hypertrophy and chronic passive hyperæmia of the omentum; chronic venous thrombosis with œdema of the right leg.

PROFESSOR T. BELFIELD read a paper on

DIGITAL EXPLORATION OF THE KIDNEY, WITH REPORT OF THREE CASES.

Of some 250 cases of nephrectomy heretofore reported, about 44 per centum have died from the effects of the operation. The chief causes of death have been:

1. Shock (42 per centum of the fatal cases).
2. Uræmia (14 per centum).
3. Peritonitis (21 per centum).

These three factors were thus responsible for 77 per centum of all deaths. Improvement in the results of renal surgery seems, therefore, to require means for the avoidance of these three great dangers.

The chances of fatal shock are decreased by early operation, before the patient is exhausted and the damage to kidney-tissue extensive through long illness. This self-evident proposition is illustrated by the fact that, while about 18 per centum of all (250) nephrectomies have died of shock, yet of 24 nephrotomies of fairly healthy kidneys removed for wounds of loin, ureter, for mobility, etc., not a single death occurred from shock.

The greatest obstacle to the early surgical treatment of renal diseases has been *faulty diagnosis*. Such cases are usually treated as lumbago, sciatica, hip joint disease, and especially cystitis, for a long time before the true seat of the lesion is detected or even suspected. Since it is not always remembered that pyelitis produces symptoms identical with those commonly ascribed to cystitis, the former is not suspected, and a diagnosis of cystitis is made; and as cystitis is still too generally regarded as an entity—a disease instead of a mere symptom requiring explanation—the patient is treated for "chronic cystitis." Finally, months or years later, a lumbar swelling or other symptom reveals the renal origin of the difficulty. Mean-

while the patient has become so enfeebled that he succumbs to the shock of an operation that could have been safely borne at an earlier period. Early exploration of the kidney—a comparatively slight operation—has, by drainage of the pelvis, in many cases relieved a difficulty which at a later stage would have required nephrectomy, a formidable operation; moreover, a preliminary drainage has been shown to be a valuable factor in diminishing mortality from nephrectomy. Thus, of seventy-three nephrectomies for suppurative lesions collected by Gross, twelve were made after previous exploration of the kidney, with but one death; of the remaining sixty-one—without previous nephrotomy—thirty-one died.

Uræmia rarely occurs after any renal operation provided the second kidney be present and in healthy condition. While commonly associated with nephrectomy, one of the annexed cases shows that uræmia may be inevitable after simple nephrotomy; hence a necessary preliminary to any renal operation should be an attempt to ascertain the functional condition of the opposite kidney. In the female this can often be accomplished by cauterizing the ureter, after Pawlik's method; in the male probably the best, though still an uncertain means, is Silbermann's instrument for compressing one ureter. The statement that the abdominal incision, by permitting digital examination of the opposite kidney, obviates the dangers of uræmia, is fallacious; for in many cases kidneys which are indistinguishable by the finger, or even by the eye, from normal organs, are extensively invaded by disease—inflammatory, tuberculous or calculous. The kidneys exhibited by Professor Steele are signal examples—normal in size, contour and consistence, yet each extensively tuberculous. Palpation through an abdominal incision could have detected nothing abnormal in either of those kidneys.

The following cases illustrate several of the principles above enunciated:

S. M., widow, 26 years old, delicate since childhood; has had dyspepsia for years; for a year past has suffered from headache, pain in back and left thigh; menstrual intervals shortened to two or three weeks. Was variously treated for lumbago, sciatica and ovarian disease. In March, 1886, urination was unduly frequent and sometimes painful; urine contained pus and blood; was treated for cystitis.

On admission she was emaciated and feeble; urination every half-hour or oftener and painful; had frequent pain in lumbar region, often shooting down to left thigh; and required morphine constantly. Urine acid, depositing blood, pus, and occasional rosettes of large uric acid crystals.

Diagnosis, calculous pyelitis, probably limited to left side; right ureter catheterized and urine appeared normal.

November 29th, 1886, the kidney was exposed and the pelvis explored; mucous membrane rough and ulcerated, clots of pus evacuated; wound in kidney packed with gauze.

Except for persistent vomiting for a few days, recovery was without notable incident. The renal fistula was closed on the twenty-first day; patient has since been free from all her former symptoms and is regaining flesh and strength.

G. F., 30 years old, was knocked down by a cable car November 28th, receiving a lacerated wound of right hand and various contusions. The hand was dressed, and patient presented no notable symptoms until December 11th, when often straining at stool he passed a large quantity of blood with the urine and had severe pain and tenderness over the right kidney, with some temperature; these symptoms persisted in spite of rest, ergot, gallic acid and opium; the right loin while not swollen, felt boggy. December 22nd, the patient having experienced several irregular chills and sweats during the previous day, a lumbar incision was made down to the right kidney. The peri-renal tissues were found closely adherent, extravasated blood was seen under the capsule and a rent one and a quarter inches long was found in the posterior surface of the kidney extending into the pelvis; about half an ounce of a watery fluid lay behind the kidney. A large drainage tube was inserted. The temperature remained high for several days, after which recovery rapidly ensued, and January 14th the patient was discharged well; the wound entirely healed.

C. L., 48 years old, farmer, began some two and a half years ago to suffer from slight pain and stiffness in the loins; later, pus appeared in the urine; was treated for Bright's disease. About a year ago urination became frequent and sometimes painful; was supposed to have cystitis. Has lost flesh; his rest has been much disturbed by frequent calls to urinate. Six months ago he passed two small calculi after some renal colic on left side; since that time has had slight colic on left side several times, followed by expulsion of clumps of pus but no calculi.

Diagnosis, tuberculous or calculous pyelitis, probably former; bacilli were found in one examination of pus, and the lower organs were normal.

Exploration, January 26th. The kidney (left) was considerably enlarged; no calculus could be detected with finger or needle. Incision through kidney showed the pelvis considerably dilated, its orifice narrowed by a thickening of upper part of ureter; mucous membrane ulcerated in several places; the pyelitis evidently tuberculous.

Nothing of note occurred until the fifth day, when the urine became scanty and tinged with blood; soon the usual evidences of uræmia became manifest, and death ensued from this cause on the eleventh day. A partial autopsy showed that the right kidney was extensively, the left slightly tuberculous; bladder and prostate normal. Evidently the right kidney, which had never caused pain, had been first diseased; the function of the left, which had latterly been performing most of the renal excretion, had been arrested, not by the slight incision, but by the congestion which followed the removal of the accustomed pressure in the dilated pelvis. Similarly uræmia has followed the sudden evacuation of a habitually distended bladder.

To summarize: 1. Surgical affections of the kidney and its pelvis are frequently masked under symptoms of cystitis, lumbago, hip-joint diseases, etc.

2. Digital exploration of the kidney and its pelvis often affords the only available means for accurate diagnosis in the early stages.

3. When made with due precautions, this operation is almost devoid of danger; while saving the kidney, it may accomplish all that a dangerous nephrectomy could offer at a later stage; and if it fails to cure, it materially increases the chances of recovery from a subsequent nephrectomy.

4. An investigation into the functional condition of the opposite kidney should precede an exploratory incision into the pelvis.

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.

Regular Meeting, Friday, March 18th, 1887.

I.—JAGGARD. *A Puerperal Uterus, Showing Endometritis Puerperalis.*

II.—JACKSON. *A Case of Removal of the Ovaries and Tubes for Bleeding Fibro-Myoma of the Uterus.*

III.—FENGER. *The Operative Treatment of Retroperitoneal Cysts in Connection with Mikulicz' Method of Drainage.*

The PRESIDENT, CHARLES WARRINGTON EARLE, M.D., in the Chair.

I.—DR. W. W. JAGGARD presented a

Puerperal Uterus, showing Endometritis Puerperalis.

The material was placed at his disposal through the courtesy of Drs. Pickard, Hibbard and Plummer, of the Cook County Hospital.

History: Patient 64003, Ward 14, Swede, 24 years old. I para. Labor, March 13th. Vertex presentation, R. O. P.: First stage, ten hours; second stage, three hours; third stage, ten minutes; male child; wt. 6 lbs., 13 oz.; condition good. Severe post-partum hæmorrhage, after expression of placenta; intra-uterine irrigation with hot water, vinegar, finally mercuric chloride, 1: 4000: perineum sutured, vaginal douche. Chill, three hours after delivery; temperature 101° 8 F.; pulse rapid and feeble. Patient died four days later; temperature reaching the maximum, 103° F. a few hours before death.

The autopsy disclosed puerperal ulcers in the vagina, diphtheritic endometritis, splenic tumor, ulcerative septic-endocarditis. The ovaries, tubes and peritoneum were not involved in the inflammatory process. The case apparently corresponded to the form described by Buhl in 1861 as "Puerperal pyæmia without peritonitis" (metro-phlebitis). The poison had apparently gained direct access to the veins, the endometritis being only a prominent symptom.

It must not be supposed that the mortality rate from child-bed fever in the lying-in wards at the Cook County Hospital is high. About 400 women are annually delivered in that institution, and less than one-half of one per centum perish from puerperal fever. Rigid antiseptic precautions, in conformity with the Semmelweis doctrine—every case of child-bed fever arises from the resorption of decomposing organic matter through some local lesion in the genital tract—have been instituted and carried out with commendable intelligence, skill and zeal by the internes. The only criticism that Dr. Jaggard wished to make was upon the use of mercuric chloride for the purpose of intra-uterine irrigation.

DISCUSSION.

DR. CHARLES WARRINGTON EARLE: I think there is evidence accumulating at this time which shows that we are not certain that the decidua comes away completely, and in a great number of cases there is not only a considerable amount of this left, but also pieces of membrane, etc., etc., which no one, however careful, can detect.

Whenever a high temperature takes place on the eighth or ninth or tenth day, I am in the habit of washing out the uterus, and then if the high temperature continues, to curette, and in almost every case the amount brought away astonishes everybody, particularly the attending accoucheur. Sometimes 2 or 3 drachms are brought away; the temperature becomes normal in 12 hours and a speedy convalescence takes place. I would like to ask what the experience and observation of the other Fellows of the Society have been in regard to the certainty which they feel that *everything* comes away.

I am getting together a series of cases in which I will endeavor to show that where there is a high temperature that comes on as late as the tenth or eleventh day, if it does not come down after a thorough intra-uterine douche with carbolyzed water, curetting should be resorted to, and that it will in almost every case bring away an amount of material that none of us expect. In many of these cases the temperature goes down at once.

I had a case on Hoyne street, which took place in the practice of a graduate of one of our schools,—a young man of excellent record, and one who is thoroughly in accord with us on antiseptic obstetrics. On the tenth day the temperature was $103\frac{1}{2}^{\circ}$ F.; an intra-uterine douche did not bring it down. The next day it was $105\frac{1}{2}^{\circ}$ F. I curetted and brought away a mass of material which surprised me as well as the practitioner. The woman made an excellent recovery without a bad symptom.

DR. A. REEVES JACKSON: It seems, to look at this specimen, that the curettement would have to be exceedingly deep; especially after the infection of the walls, you could hardly get away all the septic influence. There may have been a stage in the history of that case in which it would have been a proper treatment.

DR. CHRISTIAN FENGER: In consultation, last fall, I saw a case of abortion, not childbirth, where part of the placenta was left. The temperature had been down for over a week and the woman was apparently perfectly well. The doctor in charge decided to curette that part of the placenta which remained. The curettement was immediately followed by sepsis that terminated fatally within a short time. So it seems that under certain circumstances curettement may open up sepsis. He curetted to remove the placenta.

DR. JAGGARD said he supposed Dr. Earle referred to Carl Braun's practice of curettement. He did not care to discuss that subject at this meeting. Certainly, in the case presented curettement could have accomplished nothing. The poison—ptomaine, cadaveric poison, or whatever it was—had already entered the veins.

II.—DR. A. REEVES JACKSON read the following report of

A Case of Removal of the Ovaries and Tubes for Fibro-Myoma of the Uterus.

I present to the society a pair of ovaries and corresponding tubes, which were removed for the purpose of a possible beneficial influence on the hemorrhage caused by bleeding myoma of the uterus. The woman was single, about 40 years of age, menstruated first at the age of 13, and was always regular until three years ago, when menorrhagia occurred. At the same time, there appeared at intermenstrual periods—about half-way between—occasional discharges of a yellowish thin fluid. These discharges were preceded by pain in the left iliac region and some swelling. The menorrhagia increased, the other discharges continued about the same, and bleeding became so nearly constant that finally it was difficult to distinguish the menstrual period. About a year and a half before I saw her, there had been discovered a tumor in the abdomen. Ergot was then used systematically and properly, but it had no restraining influence on the hemorrhage and she became anemic, exhausted, and had nervous headaches, cardiac palpitation and loss of appetite. I found a uterine fibroid the size of an orange and suggested removal of the ovaries, although she came for the purpose of having the uterus removed. The operation was performed at the Presbyterian Hospital three weeks ago. The left ovary was exceedingly small, with no trace of recent ovulation; the tube was enlarged and contained a small amount of yellowish fluid. Possibly this condition of the tube, with the previous history of occasional swelling, may have indicated that the latter was from hydrosalpinx. Here are the specimens. The right ovary was enlarged and the tube normal in structure. There was a Graafian follicle which had just broken. She had menstruation two weeks before and the condition of this follicle seemed to indicate that it had no temporal relation to that menstrual period. The highest temperature was 100.1° F., and was reached on the fourth day. The woman is now entirely well, is sitting up, and will probably be able to go to her home, a hundred or two miles distant, in the coming week. Hemorrhage appeared on the third day after operation and lasted thirty-six hours. It was then checked by vaginal tampons. She has had no discharge of blood since that time. What effect the operation will ultimately have upon hemorrhage and growth of the tumor cannot be determined at this stage of the history.

III.—DR. CHRISTIAN FENGER made the following remarks on

The Operative Treatment of Retroperitoneal Cysts in Connection with Mikulicz' Method of Drainage.

It is not my intention to-night to give an exhaustive review of the entire subject of retroperitoneal or parovarian cysts, but I merely wish to call attention to the subject for discussion, giving some of my own experiences, with a view of bringing out those of other Fellows of the Society.

The subject is that of so-called parovarian cysts, or cysts of the broad ligament, or cysts with fimbriated epithelium, and I wish to call attention to a few facts concerning them before showing specimens.

We know that these cysts are said, in a great majority of cases, to

develop from the parovarium, the rudimentary sexual remnant of the Wolffian bodies; more rarely, they are said to develop from the epoöphoron; finally, it is possible that cysts of the broad ligament may originate from hæmatomas.

The canals of the parovarium, being lined with fimbriated epithelium, may account for the fact that the inside of a number of these cysts is found to be lined with this form of epithelium.

Parovarian cysts are typically mono-cysts. In this respect they differ materially from proliferating cystomas or other ovarian cysts developed in or into the broad ligament. Both classes are retroperitoneal cysts, inasmuch as they are situated behind the peritoneum of the posterior wall of the abdomen, but the cysts of ovarian origin are more likely to have only a partial retroperitoneal or intra-ligamentous development; that is, part of the tumor within, part outside of the broad ligament; whilst the parovarian cysts proper are more likely to be completely surrounded by the broad ligament. From the broad ligament, and separating its two layers, they commonly develop inward to the sides of the uterus and downward toward the bottom of the small pelvis.

They are usually thin-walled, lined with fimbriated epithelium or mixed fimbriated and common cylindrical epithelium; consequently their interior surface is smooth, and they contain a thin, colorless, clear fluid of low specific gravity, with no formed elements. Between the peritoneal covering and the cyst-wall there is usually a layer of loose connective tissue with but few vessels; which explains the facility with which these cysts may sometimes be separated from the broad ligament covering them, and enucleated without the use of cutting instruments, and with very little harm.

A typical cyst of this kind should have the Fallopian tube on its outside stretched out and flattened, because the cyst develops into the little mesentery of the tube. In the same way the ovary is found stretched out and flattened on the outside of the cyst near the tube. Exceptions to these common anatomical characters, however, are found. The cyst-wall may be thick, may become the seat of secondary growths, such as papillæ or papillomatous fimbriated tumors, which, having developed on the inside of the cyst, may perforate the cyst-wall, protrude on the outside, and take upon them a malignant or semi-malignant character, invade the general peritoneal cavity, giving rise to multiple metastatic papillomas.

In cases of this kind, the contents of the cyst is not a thin, clear, serous fluid, but resembles more or less the fluid of the ovarian cystomas, with numerous formed elements, viscid character, and hæmative or blood mixed with it.

The connective tissue layer between the cyst and the broad ligament may not be loose and deficient in vessels, but is sometimes so tense as to make separation of the cyst here almost or entirely impossible, and it may contain numerous large vessels.

As to the symptoms: The cysts usually grow slowly, and do not cause any inconvenience unless they reach a very considerable size. They are

usually not very tense. The fluctuation is very distinct and superficial. When such a mono-cyst is large, the abdomen is likely to be flat when the patient is recumbent, as in ascites, and the percussion note is apt to change somewhat with the position of the patient, thereby sometimes making the differential diagnosis still more difficult.

The parovarian cysts are likely to burst spontaneously, but the contained fluid is so little irritative in character that peritonitic symptoms rarely follow, the thin, clear fluid being absorbed quickly and readily.

On this account, these are the cysts of the abdominal cavity which best permit of puncture or aspiration, as these trifling operations are not uncommonly followed by radical cures.

In this connection I will describe a case which came under my observation in 1884. A girl 18 years of age came to me from Racine, who had a cyst extending above the umbilicus, and about the size of a uterus in the seventh month of gestation. She had been accused by her relatives of being pregnant, but, knowing this was not the case, came on here.

On examination I found the uterus of normal size on one side of the cyst, and in my office, with a common hypodermic syringe, I drew off and took away for examination a perfectly clear fluid, and told the patient to come down for operation. She went home to make her arrangements, and came down a month later. The cyst had entirely disappeared, without symptoms of peritonitis.

In a case like this there may, of course, be a doubt as to the correctness of the diagnosis of a parovarian cyst; but it is reasonably certain that this was the case, as one of the characteristics of this class of cysts is that rupture into the peritoneal cavity causes no peritonitis, and the fluid is absorbed without difficulty.

The method of operating on these cysts we owe to Dr. Miner, of Buffalo, N. Y., who published in 1869 his operation by enucleation.

The surface of the tumor, or, rather, the broad ligament, when exposed after the opening of the abdominal cavity, is incised down to the wall of the cyst. In the loose connective tissue layer the broad ligament is now separated from the cyst-wall. By means of the fingers or blunt instruments this separation can be continued, without the use of any force and without appreciable hæmorrhage, until the cyst is completely enucleated, and may be lifted out of the cavity. Evacuation of the cyst fluid after partial denudation of the wall, as a matter of course, facilitates enucleation.

In some cases of parovarian cysts, the development is to such an extent peripheral in the broad ligament that the uterine half of the latter is long enough for the formation of a pedicle. In such cases the usual operation for ovarian cysts may be performed at a sacrifice of the covering broad ligament, with tube and ovary. But such a peripheral development is not the rule, and whenever the cyst is developed down upon the uterus or into Douglas' fossa, or farther away still in the retroperitoneal space, enucleation is the only method available for its complete removal.

Difficulties during the course of enucleation arise when the connective

tissue is tense and rich in vessels, necessitating dissection with the knife, and numerous ligatures. Further, if a large cyst develops deep down in Douglas' fossa or even behind the rectum, or up into the mesenteries of the intestines, sigmoid flexure, or descending colon on the left side, or cæcum or ascending colon on the right side, we may find in such cases, smaller or larger portions of these intestines spread over the surface of the cyst longitudinally and transversely, just the same as the Fallopian tube. It may be difficult, almost impossible, to remove the cyst-wall from the intestines in such cases, and danger may arise from the fact that the intestines will not bear denudation of the muscular layers to any extent, as it easily becomes gangrenous.

The first case I met with was that of a married woman, 22 years of age, from Racine, who had a cyst which had been developing for two years. It was as large as a gravid uterus at term and contained a clear fluid. When the abdomen had been opened and the covering broad ligament had been incised down to the cyst-wall, I commenced dissection with a view to enucleation, but after working about half an hour dissecting and ligating vessels, I had advanced but very little. All that I could get out of the cyst was a piece as large as the palm of the hand. Consequently I was obliged to leave the cyst, after having united the opening into it with the abdominal wound and made use of a method of drainage which I had intended to speak of this evening—the so-called Mikulicz drainage. The patient made a good recovery.

About a year ago, Mikulicz, of Cracow, proposed the following method of drainage, not only for retroperitoneal cysts, which can be excluded from the general peritoneal cavity by uniting them to the abdominal wound, but also for drainage in the peritoneal cavity itself. He takes a small piece of iodoform gauze, stitches a silk thread to the center of it, and folds it up in the form of a pouch, the silk thread being inside, so that the pouch may be drawn up from the bottom by it. The pouch is now pushed down to the bottom of the cavity, and, if nooks and corners exist, it is pushed out so as to completely fill them. In the inside of the pouch is packed with strips of iodoform gauze, as much as is necessary to completely fill up these spaces. This is the advantage claimed by Mikulicz for his method of drainage as compared with the use of glass or rubber drainage.

DR. ETHERIDGE: Do you tuck that clear into the abdominal cavity—the cyst itself?

DR. FENGER: Yes sir, down into the bottom. Besides the disinfectant properties of the iodoform gauze applied to the entire wall of such a cyst Mikulicz states as one of the advantages of his method that, by the capillarity of the gauze, everything is brought out—fluids which a glass or rubber drain could not bring out. We must remember that when we drain the peritoneal cavity with a glass drain down between the intestines or in the cavity of the cyst, we cannot always expect to get surrounding organs in so close contact with the drain as to drive the fluid out.

Further, there is this to consider; that a glass drain put down in the free peritoneal cavity has no tendency to bring out the fluid accumulated at the

bottom. The intestines filled with air will simply swim in the fluid and there is no pressure from without that will bring this fluid out of the glass drain, while the capillarity of the gauze is likely to help in that direction.

DR. SAWYER: How long could it be allowed to remain in the abdominal cavity?

DR. FENGER: I have had it remain in all these cases for about two weeks. As soon as the discharge ceases I commence first to pull out the loose gauze inside the sack. If a space is left after this has been pulled out I press in at that dressing a little more gauze. This is gradually removed and the pouch itself is then pulled out by the thread gradually and finally. In all my cases it came out about the end of the second week.

The second case was similar to the first, inasmuch as there was no possibility, at least, as far as my ability went, of getting the cyst out. It was a large cyst of eight years' development, in a woman fifty years of age, from Sioux City, Iowa. A prolapse of the uterus had developed during this time and I was able to get out of the cyst, after considerable dissection, hardly more than two square inches. I used the Mikulicz drain with the same result as before. The patient was operated upon October 31, 1886.

In the two above mentioned cases enucleation was impossible, and we, with Ohlshausen, may have to class them under unfinished operations, as far as the extirpation of the cyst is concerned. But in cysts of the broad ligament, such an unfinished operation is, as a rule, followed by undisturbed and perfect recovery, and so I feel inclined rather to classify the above named method of operating as a legitimate one for non-enucleable parovarian cysts, than to use the somewhat misleading and sinister term of incomplete operation.

The third case was a woman 50 years of age, in whom the cyst had taken three years to develop. The operation was performed February 2, 1887. The outside of the cyst looked smooth in this case because the connective tissue was so loose. It was the easiest thing imaginable to enucleate it from the retroperitoneal cavity in which it was developed. There were not two vessels to tie and this accounts for the smoothness of the outer surface. This cyst was a typically normal one of that class, as it was covered all over with the broad ligament. The fluid was perfectly clear; no remnant of a blood clot was present.

Now, when the cyst has been enucleated, the question arises what to do. I was afraid to leave this large retroperitoneal wound without drainage, so I used Mikulicz' method, and the woman is well. It is, however, a debatable question; and in the future it is probable that in a case like this drainage will not be used.

Authorities like Ohlshausen very strongly recommend, even for a cavity as large as that, not to drain at all—not even to unite the surface of the peritoneum so as to exclude the retroperitoneal wound from the general peritoneal cavity. He says that when there is no infection, no sepsis, during the operation, there will be no peritonitis, and no septicæmia afterward. He also states that he usually leaves the cavity alone after these

enucleations, and that peritonitis seldom or never follows as a consequence of the operation, nor do pelvic abscesses form.

This is where the matter stands, and these are the points for discussion. I must say that I do not dare to rely so fully on entire asepsis during the operation as to leave drainage out. Undoubtedly the recovery of the patient is quicker and easier without than with drainage, as very often, in the latter case, a fistula remains which may keep open for months.

The fourth case was an old and rather anæmic patient, more than fifty years of age, but apparently sixty. She was pale and emaciated, and had a large retroperitoneal cyst, located partly in the peritoneal and partly in the retroperitoneal cavity, or, in other words, of partly extra and partly intra-ligamentous development. As a natural consequence, the enucleation was difficult, since the peritoneal cavity was at once entered. On the inside of the cyst were papillomatous masses such as are found in smaller growths, cystomas of the ovary. These, of course, always indicate malignancy. On the inside of this cyst the surface was rough, velvety from the diffuse papillomatous condition of the entire inner wall, and in some places grown out into a large papilloma, but in no place smooth.

The operation in this case was rendered more difficult, because the connective tissue, surrounding the intra-ligamentous portion of the cyst, was comparatively tense, and, further, because it had grown up into the mesentery of the sigmoid flexure, so as to be covered by it. When the cyst was enucleated, there was a portion of the sigmoid flexure that I was afraid of.

There is one other point beside the intestines which we should be careful to avoid in the extirpation of these retroperitoneal cysts; that is, the ureters. As soon as we get into the neighborhood of the large vessels in the posterior wall, we must look carefully out for the ureters and locate them by palpation, as when the ureter is adherent to the cyst it may be easily torn.

Mikulicz' drainage was used in this case as in the others. The first three or four days she had no untoward symptoms, but on the fourth or fifth day she commenced to vomit, and became somewhat delirious and sleepy, and died, the temperature not having exceeded 101° or 102° F. I saw her the evening before she died, and expected on account of the vomiting to find peritonitis, but there were no local symptoms at all. Then I supposed it to be sepsis without peritonitis, but the autopsy showed the cause of death to be uræmia.

We found in both kidneys, from pressure of the tumor on the ureters in a state of dilatation, not exactly hydronephrosis but dilatation and subsequent atrophy, to a sufficient degree in my opinion to account for uræmia; for we know that patients with so much degenerative disease of the kidneys of any kind as to almost reach the limit of secreting tissue, are apt to get uræmia after operation. Whether the operation, or the anæsthetic is the cause, I cannot say, but it is a well-known fact.

After the opening of the abdominal cavity, Mikulicz' drain was laid down right between the loops of intestine, and, of course, a local but aseptic peritonitis formed along the drain. You will notice on the specimen I now

present the impression of the meshes of the tissue of the drain, but outside of this a perfectly clear and smooth peritoneum.

As I remarked before, the chief point for discussion is the drainage. Ohlshausen does not drain in any such cases. This may be thus explained: He says that in many cases of this kind it is impossible to finish the operation. If we accept his classification, two of my cases would be termed unfinished operations; but I am certain that with an unfinished operation and a Mikulicz's drain a radical cure may be effected just as well, perhaps, as if the cyst had been taken out. This, of course, would apply only to a thin-walled cyst of a malignant character. •

DISCUSSION.

DR. A. REEVES JACKSON: If I remember correctly, Dr. Miner's discovery or suggestion in regard to enucleating tumors was not originally for the purpose of removing only sub-peritoneal cysts, but to make possible the removal of ovarian and other tumors in which the adhesions were so extensive as to make it impossible to remove them in any other way. I think his first case one in which he failed to find a pedicle and so was driven to enucleate. I think he removed very few tumors in this way, because he did not find the necessity for doing it. But when adhesions were so extensive and tense that it was impossible to remove the growth, he made a slight incision around its lower portion, and then, seizing it above, after emptying the cyst, he passed a finger or suitable instrument around until he had loosened all the attachments. It was a valuable suggestion, and operators have availed themselves of it in suitable cases.

In regard to the removal of these sub-peritoneal cysts, one of the cases related by Dr. Fenger shows clearly that the operation of enucleation is not always necessary. The tapping was followed by complete cure. Tapping has frequently been successful and these are the cases in which it is the proper method of treatment. I am aware that many hold a different opinion and advise extirpation always. If the tumor should refill after tapping and the patient's health fail, I should be in favor of removing the cyst by ordinary methods.

In regard to Mikulicz' plan of drainage, it has always seemed to me that it could only succeed in removing the thinner parts of the fluid; the more dense constituents could not be carried away as well by this method as by a tube of glass or rubber. I can see an objection to it in the possibility of a long convalescence resulting from the large fistulous opening which might be left, and which would be embarrassing for months.

In the last case detailed by Dr. Fenger, we have an illustration of the importance of knowing the condition of the kidneys before operating for any abdominal tumor of long standing. Many operators make it a point to know that the patient passes a sufficient quantity of urine of a proper character before consenting to operate. They insist on knowing that the kidneys can do their work, and the rule is a good one.

DR. CHRISTIAN FENGER: In regard to the remarks of Dr. Jackson, about the insufficiency of the Mikulicz' drain, I will say that I forgot to

state that I do not use it now, without at the same time inserting in the center of it a glass or rubber drain. In an operation last Autumn, in which I used the Mikulicz drain without a glass drain, I found the outside dressing dry and still about a pint of fluid at the bottom of the abdominal cavity after the patient was dead; so since that time I have always inserted a glass or rubber drain in the center of the Mikulicz drain.

As to the remark regarding the examination of urine: Of course we always do this. In this case there was no albumen, but I cannot say that it was examined as to quantity.

In reply to the question of Dr. Jaggard as to whether I have used the drain in pelvic abscess and acute suppurative peritonitis: I have not used it in pelvic abscess, but have used it in tuberculous peritonitis, in a case last fall which looked like a tumor. There was tuberculous peritonitis with a large localized cavity or space filled with a fluid more or less serous. I used the Mikulicz drain with a glass drain, and the patient was still alive two or three months ago, and I do not know whether the drain is out yet. I have used it in other cases which show its efficiency. In a case of chylous ascites that had been tapped and tapped and had refilled, and in which laparotomy had been performed the year before and still it had filled again, I opened and drained the peritoneal cavity, and used the Mikulicz drain with a glass tube with perfect success. I always use it in acute peritonitis, and see no reason why it should not be used in peritonitis as well as in other cases. At the time Mikulicz published his paper on this form of drainage, it was only in peritonitis that he had used it.

In regard to the similarity between labor and operation, as far as the question of eclampsia is concerned: That is one of the subjects which was brought up for discussion in the *Berliner Kleinsche Medicinische Gesellschaft* last fall, between Leyden and Virchow, in which no definite conclusion was reached.

I fully agree with Dr. Etheridge that vaginal drainage, mechanical of course, is the most rational method because it draws best. My own experience is limited as I have only employed it twice, and both patients died. We dread the vagina as a septic cavity and the reason why we should not drain through it, is fear of sepsis from the vagina up into the abdominal cavity. But I believe with our new precautions the vagina could be kept so aseptic that retrograde sepsis from it could be prevented. I believe also that vaginal drainage ought to be used more than it is, and that we need not be so afraid of it as we are.

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ABSTRACTS AND EXTRACTS.

CONCERNING THE PRESENT STANDING OF THE WATER TREATMENT OF TYPHOID FEVER. *By* DR. ERNST BRAND, Stettin, Germany. (*In Deutsche Medicinische Wochenschrift, Nos. 1 to 11 inclusive.*)

In the *Berliner Klinische Wochenschrift*, of November 9th, 1885, Senator of Berlin said that the so-called water treatment, or "method of Brand," of typhoid fever, was not only not in use in any Berlin hospital, but also that as a method of treatment it produces no conclusive results. It has been condemned also by Leyden of Berlin, Gläser of Hamburg, and Ebstein of Göttingen. The *Gazette Hebdomadaire*, of January 15th, says, "The method of Brand in the treatment of typhoid fever has fallen into disuse among the German physicians." The author thinks all this calls for a defense of the treatment assailed, and he proposes to "break a lance" with the gentlemen named in behalf of his method.

The articles contributed are so voluminous and the style so discursive that great condensation is necessary in this abstract, but an earnest attempt is made not to omit any matter essential to the argument of the author.

"The ground upon which the gentlemen named base their conclusion is that, according to their experience, the very troublesome treatment by baths gives no better results than the expectant treatment gives. Ebstein (*Die Behandlung des Unterleibstypus*, Wiesbaden, 1885,) with the expectant treatment lost 13 in 225 cases, or 5.5 per cent. Gläser

(*Berliner Klinische Wochenschrift*, 1885, No. 12) reports from the Hamburg hospital a mortality of 7 per cent. with expectant, and of 8 per cent. with the water treatment, and (*Deutsche Medicinische Wochenschrift*, 1885, No. 12) 102 cases treated "without water or other antipyretics" with 3 deaths.

Senator (*Berliner Klinische Wochenschrift*, 1885, No. 45) reports the mortality in the Augusta hospital with the expectant treatment, without baths or antipyretics, as 12.3 per cent.; and in the Bethany hospital, and in the Moabite military hospital, with energetic use of water and antipyretics, as 13.5 per cent. and 15.2 per cent. respectively.

Under the expectant method the following mortality occurred, viz., With Liebermeister, 27.3; with Griesinger, 18.9; in Kiel, 15.6; in Leipzig, 18.5; in Vienna hospitals, over 20; in Dresden, 13; in Strasburg, 23; in Paris 32; and during the siege of 1870-71, 60.8 per cent.

The author claims that the expectant method remains what it always has been, and he gives the following from Ebstein as illustrative: "Calomel as abortive treatment; against the development of typhoid, careful diet, good surroundings, cleanliness, fresh air, wine, hydrochloric acid, with and without quinia; against the temperature, accompanied by grave brain or heart symptoms, salicylic acid; against heart failure, wine, cognac, camphor; against bronchial and lung affections, 'Flores benzoës' and preparations of ammonia; against the stupor, musk, cold frictions, and an ice bag to the head." Ebstein's diet list comprises milk, meat broths, meat extracts, yolk of the egg, liqueurs, coffee and spirits.

"In Hamburg under the expectant treatment the mortal-

ity in typhoid fever was 19 per cent., and under the administration of Gläser it has recently fallen, under both expectant and so-called water treatment—both with and without medicine, to 3.2 to 20 per cent. In Göttingen,* prior to 1861, under expectant treatment it was 25 to 33.3 per cent. Under timid water treatment—one bath daily—it ranged from 3.2 to 20.2 per cent.; and now under Ebstein's expectant treatment it stands at 5.5 per cent."

The author claims that after a careful examination of the communications of Gläser and Ebstein, since the surroundings and service are the same as formerly, one is forced to the conclusion that the lessened mortality reported by these gentlemen is due simply to their increased skill in the management of the expectant method. Ebstein reports 222 cases of recovery as of great or moderate severity, and of these, intestinal hemorrhage in 4.9 per cent. against 5.6 per cent. formerly; pneumonia in 2.7 per cent. against 20 per cent. formerly; ulceration from pressure of decubitus, 1.8 per cent. against 10 per cent. formerly. The average duration of the stay in the hospital was twenty-nine days, and during the seven years from 1877 to 1884 there was no death from typhoid fever in the Policlinic at Göttingen.

Gläser replies in a somewhat irritated tone to the remark, by Mayer in Aachen, that typhoid fever in Hamburg is of a mild variety, and reports a series of 102 cases with their complications, treated "without water or other antipyretic measures."

"In the following table I arrange these cases and remarks upon the complications in parallel columns:

Gläser's 102 cases.

1. Average stay in the hospital, 49 days.
Average duration of the fever, 18 days.

2. A temperature above 41° C. (105.8° F.)
twice, or 2 per cent.

3. A pulse of 144, 5 times.

4. Ulceration from pressure of decubitus, 1 per cent.

5. Recurrence, 1 per cent.

6. Pneumonia, 11 per cent.

7. Pleuritis, 3 per cent.

8. Intestinal hemorrhage, 6 per cent.

9. Profuse diarrhœa 3 times, and tympanites 2 times.

Comments.

1. Both stand in marked contradiction. The duration of the fever is that of light cases (sixteen days according to Jürgensen); the stay in the hospital is that of severe cases (forty-four days is the average in military hospitals; thirty-seven that of clinical institutions).

2. In 100 of my non-selected case-histories I find 22 with a temperature over 41° C. (105.8° F.), 3 over 42° C. (107.6° F.), without death or other significant result.

3. A common occurrence in nervous anaemic and protracted cases of typhoid fever.

4. Formerly 9 per cent.

5. Formerly 8.6 per cent.

6. Formerly 20 per cent.

7. Formerly 3.6 per cent.

8. Formerly 7.3 per cent.

9. In every case of developed typhoid tympanites is never absent, and profuse diarrhœa is a common complication.

In the light of such statements it must be admitted that the Hamburg cases are light ones. This conclusion gains additional confirmation from Gläser's statement that his typhoid cases have "‘quiet-blessed’ sleep," for it is true the world over that under expectant treatment, stupor, somnolence, coma or delirium or phantasy are common.

What Gläser and Ebstein call energetic hydrotherapy is by no means such. According to Gläser it consists in the administration of baths at 16° R.; (60.8° F.) during the time from 7 A. M. to 9 A. M., whenever the temperature of the body reaches 39° or 39.5° C. (102° to 103°), no baths at night. At Göttingen baths of ten minutes' duration from 26° to 28° R. The number of the baths during the entire course of the fever was, 1860-1863, to each patient, 8 to 10; 1863-1868, 15; 1868-1872, 30 to 35; that is, not more than one bath daily at any time. In the Moabite (Berlin) military hospital, together with quinine and other an-

tipyretics, baths at 22° R., cooled to 18° R., continued 10 to 15 minutes. In cases of children and those of feeble constitutions, 27° R. cooled to 20° R. Never more than 4 baths in the 24 hours, and this only in cases of specially high temperatures, otherwise 1 to 3 daily. In the Bethany hospital (Berlin), in cases of temperatures of 39.5° C. (103° F.) ice bags are applied to the head, and ten-minute baths at 24 to 20° R. are given 3 or 4 times daily, none at night.

For the expectant treatment Murchison gives a long list of indications; for the "water treatment" there is only one, viz., to prevent and reduce every exacerbation of the fever from the beginning to the end of the fever, day and night. This indication announced by me years ago obtains to-day.

The following arrangement in parallel columns will show the difference between the so-called antipyretic and hydrotherapeutic methods of treatment:

Hydrotherapeutic.

1. The severe cases of typhoid will be changed in all respects to lighter ones, and those of mild grade become less severe.

2. *This happens—*

a. Through prevention of every increase of temperature, and the gradual establishment of a temperature near the normal.

b. Through prevention of functional disturbances of the organs.

c. Through a diminution and suppression of the process.

d. Through a preservation from complications.

3. Every 3 hours a bath at 15° R. for 15 minutes, and whenever the temperature is above 39° C. (102° F.).

4. The treatment is directed against the process as a whole.

Antipyretic.

1. A change into a typhoid case free from fever, i. e. without temperature increase, without regard to functional disturbance.

2. *This happens—*

a. Through diminution of excessively high temperatures.

b. Through a change from continued and subcontinued fever to a remittent type.

3. *Formerly*, baths whenever body temperature was 40° C. (104° F.), and every other evening an antipyretic. *Now* an antipyretic in the evening, and during the night baths frequently enough to keep the temperature nearly normal; during the day nothing, or at least a bath only in cases of unusually high temperature.

4. The treatment is directed against one symptom, the fever.

5. Baths are used exclusively.

6. Mortality.

When the treatment is begun early and regularly carried out the mortality will be:

In family practice—1 per cent.

In general practice—3 to 4 per cent.

In military hospitals—4 per cent.

In general hospitals—5 per cent.

without special change.

5. Baths and antipyretics are used.

6. Formerly 0 to 23 per cent. with an average of 7 to 8 per cent.

Now, 10 to 18 per cent., with marked diminutions.

One sees at a glance that the two methods have only the baths as a common feature.

The author calls attention to the fact that fifteen years ago he denied that the treatment by baths in vogue at Berlin and Hamburg had any influence upon the course of the disease or upon its mortality. He says that Gläser is correct in claiming that his (Brand's) method of hydrotherapeutic treatment gives uncertain results in mortality, but asserts that this uncertainty is inherent more in the nature of the case under treatment than upon the method employed. A list of fifty-eight communications concerning typhoid fever is given which appeared between 1878 and 1886.

Those who favor the antipyretic method claimed that the antipyretic effect is the only good thing accomplished, and the author thinks that the water treatment has consequently, because it requires so much work, fallen into disuse. He thinks this claim unsupported by facts, and proposes to answer the question, "What is the systematic hydrotherapeutic treatment of typhoid fever worth, and has it achieved what was claimed for it?"

In answer to this question the following facts are given:

The cold-water treatment of Brand is in use throughout the Prussian army and the 13th (Württemberg) army corps. The mortality in typhoid cases was: 1874, 12 per cent.; 1875, 10.9 per cent.; 1876, 10.8 per cent.; 1877, 9.8 per cent.; 1878, 8.9 per cent. The Sanitary Department reports

that from 1887 to April 1, 1882, at Stralsund, under Brand's method of cold baths, only one death occurred.

The mortality in the entire German army from typhoid fever was in 1881, 8.3 per cent.; in the Italian (1874-78), 28-36.8 per cent.; in the Austrian (1873-78), 26.8 per cent.; in the French (1875-80), 36.5 per cent. Dr. Paul Helm reports concerning the treatment of typhoid fever in the military hospital at Stralsund, under Ziemsen's method (1873-77), a mortality of 10 per cent.; under Brand's method in 247 cases, only one death, and that case came under treatment on the fourteenth day of the illness.

Vogl, in Munich, says (*Deutsches Archiv für Klinische Medicin Bd. XXXVI. Heft 5u. 6.*): "The average mortality under the Brand method of treatment is 2.7 per cent. The greatest mortality in any one year is 4.7 per cent." The following table is from Munich, where typhoid cases have been treated at different stations, according to the methods of Liebermeister and Brand, but with other conditions as nearly the same as possible :

PERIOD.	NO. OF CASES.	PERCENTAGE MORTALITY.	TREATMENT.
1875- 6.....	76	15.8	Liebermeister.
	66	4.5	Brand.
1876- 7.....	194	6.7	Liebermeister.
	141	3.5	Brand.
1877- 8.....	77	3.8	Liebermeister.
	56	0.0	Brand.
1878- 9.....	115	6.1	} Liebermeister.
	92	15.2	
1879-80.....	110	10.8	Liebermeister.
	98	3.9	Brand.
1880- 1.....	16	18.8	Liebermeister.
	25	4.0	Brand.
1881- 2.....	22	9.1	Liebermeister.
	42	4.7	Brand.

In the total number of cases the percentage of complications under the Liebermeister treatment was 102 per cent.; under that of Brand, 65.2 per cent., as follows :

	Brand.	Liebermeister.
Pleuritis.....	1	16
Delirium.....	6	93
Involuntary Evacuations.....	1	18
Bloody Stools.....	2	21

Under the Brand treatment there was absolutely no pneumonia, disturbance of hearing, vomiting, stupor, muscular tremors, convulsions, suppression of urine, catarrh of the bladder, peritonitis, or perforation.

Vogl further says: "Among the thousands of baths I have never, either before, during, or after the administration of the bath, seen a single case of collapse." He says, also, that whereas formerly there were many cases of general disability following typhoid fever, since the adoption of Brand's method (1876), he can remember only three such cases. He thinks that pulmonary complications, when present, do not contraindicate the baths. The author claims that Vogl supports him in every point which he claims for the exclusive hydrotherapeutic method.

Jürgensen is the director of the Policlinic at Tübingen. From this clinic Betz (*Ueber Typhus Abdominatis, Dissertationsschrift, Stuttgart, 1885*), reports 220 cases of typhoid fever, with 4 deaths, or 1.8 per cent. Of these fatal cases 2 had no baths and 1 was treated principally by antipyretics. Jürgensen is of the opinion that the treatment by baths retards the development of the bacillus of typhoid fever. At this clinic diarrhœa and intestinal hemorrhages are not considered contraindications for the continuance of the cold baths. Jürgensen said at the Congress in Wiesbaden, 1882, "I think that the water treatment must be considered the best, and that no other antipyretic method can at all compare with it."

Liebermeister said (*Congress für Internal Medicin, 1885*): "Antiseptics have made an epoch in surgery and saved countless lives. I think that when the antipyretic treatment is once completely established, it will save still more lives."

Among French authors Glénard, Tripier and Bouveret are mentioned as champions of the Brand method. Tripier and Bouveret have published a book of 635 pages, entitled, "*La fièvre typhoïde, traitée par les bains froids*" (Paris: Bailière et fils. 1886). The observations are based upon 233 cases treated from 1874 to 1885, partly in Hôtel-Dieu, and partly in Hôpital de la Croix Rousse, in Lyons. These cases were selected from among those in the hospital as the most severe, and were treated without any medicine, and the method was at first imperfectly carried out. Under these unfavorable circumstances the mortality was 8.5 per cent. The mortality in 1882-3 was 5 per cent. The authors agree with one another on the following points: In order to get the best results the baths must be commenced upon the first day of the fever. There is no danger at all of the patients taking cold. In order to get the best results the method must be carried out in its minutest details. The author remarks that this last observation is prompted by his own experience. While it will be found that the temperature tends to rise after the bath to the former temperature, it will also be found that, after a few baths, there begins a gradual decline in the average temperature for the day.

Tripier and Bouveret found that delirious headache and mental irritability rapidly disappear. They consider the cold bath a heart tonic. They say: "The method of Brand increases the energy of the heart and the tonus of the vessels, and prevents the occurrence of paralysis. In severe cases the pulse was not above 120. Dicrotism did not appear in cases which came under treatment early in the attack, and in others it disappeared."

Tripier and Bouveret think that the influence of the cold bath is favorable in preventing and arresting bronchial catarrh

and pulmonary hypostasis. In Germany pneumonia is only occasionally a complication, but in France it is the most frequent cause of death. Tripier and Bouveret consider severe pulmonary complications contra-indications for the cold baths, but stop them only when pneumonia occurs very late in the illness, and is accompanied by extreme adynamia and cardiac weakness. In this connection Bouveret refers to and confirms Jürgensen's remark, "He who has fever does not take cold." In the experience of Tripier and Bouveret diarrhœa ceased on the seventh or eighth day, and in cases treated from the beginning it did not occur; tympanites was not present, and the amount of urine was 2 to 4 times as much as it was in cases treated with medicines. Bouveret thinks that in cases in which the Brand treatment is begun before the fourth day, there will be no intestinal ulcers, and bases this opinion upon the following observations :

1. Cases treated from the beginning show absolutely no signs of ulceration.

2. The results of intestinal ulceration, hemorrhage and perforation, do not occur.

3. The statistics quoted show that intestinal hemorrhage occurs only in those cases which come under treatment late in the illness.

4. Pathological anatomy shows that the intestinal lesion by no means always goes on to ulceration, but in cases of middle grade of severity only to infiltration.

Vogl gives the following table:

COMPLICATIONS.	METHOD OF TREATMENT		
	EXPECTANT.	LIEBERMEISTER.	BRAND.
Severe bronchial affections.....	25.0 per cent.	16.6 per cent.	9.5 per cent.
Ulceration from decubitus.....	10.0 "	2.6 "	2.7 "
Severe brain symptoms.....	25.0 "	5.2 "	0.9 "
Intestinal hemorrhage.....	5.6 "	0.3 "	0.0 "
Peritonitis and perforation.....	9.0 "	0.5 "	0.0 "

Vogl is the only one who has reported ulceration from decubitus in cases treated by the method of Brand.

He considers the cold baths contra-indicated by the following conditions:

1. Cases requiring absolute rest from peritonitis, with or without intestinal perforation, late intestinal hemorrhage, venous thrombosis—conditions, however, which he has not seen in cases treated by Brand's method.

2. Affections of the larynx and pleura Tripier and Bouveret class as primary contra-indications for the use of the cold baths:

1. Peritonitis and perforation.
2. Severe intestinal hemorrhage occurring late.
3. Pericarditis and pleuritis occurring toward the close of the illness.

They think, however, that we should endeavor to decrease, rather than increase, the number of contra-indications. The author agrees with Glénard in thinking that the baths should be continued in cases of intestinal hemorrhage in which the temperature is over 39° C. (102° F.). "In my opinion the contra-indications are, upon the whole, simple. So long as one is not in possession of a medical procedure that gives safer results than does the water treatment, this should always be used. No obstacles should be allowed to prevent it, particularly since they are usually imaginary and their removal presents no difficulties." By way of explaining what are usually considered indications, contra-indications and conditions which are usually considered objections to the employment of cold baths, the author at this place in the discussion gives brief statements of a few cases recently encountered by him. These cases came from all classes of patients, and include intestinal hemorrhage, great cardiac weakness and pulse frequency, alcoholic excesses, poverty, and one case complicated with pregnancy,

pertussis and vomiting, all making good recoveries, sound living children being born in the pregnant cases. In recapitulation, the water treatment, administered according to my directions, gives the following results :

“ 1. Not only the possibility of preventing each exacerbation, but also the conquering of the fever *in toto* and its causes.

“ 2. The prevention of functional disturbances of the brain, heart, lungs, kidneys and skin.

“ 3. Prevention of intestinal catarrh and the giving of complete nourishment.

“ 4. Prevention of intestinal ulceration in those cases treated from the inception of the attack.

“ 5. A prevention of complications in cases treated from the beginning, and a diminution in those coming under treatment late in the attack.”

Upon the whole, under the systematic water treatment, there remains of the usual typhoid fever picture only : *a.*—A light fever ; *b.*—an unimportant bronchial catarrh ; *c.*—a swelling of the spleen ; *d.*—the roseola ; *e.*—the infiltration of the intestinal glands. All else will be controlled, prevented, and the severest case will run the course of the lighter ones when the treatment is given from the beginning.

One may compare this powerful effect of the systematic treatment of typhoid fever with cold baths with that of the Lister treatment of wounds, in securing primary union. A few years ago both were considered impossible and therefore not believed. With regard to antiseptics this is changed, but with the water treatment not completely.

The consideration of the effect upon the rate of mortality is not so pleasant, because statistics are misused and much is thus brought into contempt.

In the year 1877 I reported in the second edition of my

monograph 8,141 cases treated with the hydrotherapeutic method, with a mortality of 7.4 per cent. Now the number of cases is 19,017 and the mortality 7.8 per cent.

	CASES.	DEATHS.	PERCENTAGE.
a. Prior to 1877.....	8,141	600	7.4
b. Military Hospitals—			
1877.....	2,081	206	9.8
1878.....	2,112	190	8.9
1879.....	1,741	163	9.4
1880.....	2,534	226	8.9
c. Military Hospitals—			
2d Army Corps—			
1882-3.....	477	17	3.5
1883-4.....	429	28	6.5
1884-5.....	392	14	3.5
1885-6.....	188	6	3.1
d. Jürgensen (Tübingen).....	220	4	1.8
e. Vogl (Munich).....	221	6	2.7
f. Tripier and Bouveret.....	481	29	6.
	19,017	1,489	7.8

By the introduction of statistics from Liebermeister, Ziemsen, Hagenbach and others, this number might be considerably increased, but they all use antipyretics, and the number is already large enough for the purposes of this article. It must be remembered that these 19,017 cases include all primary and secondary complications, all ages, both sexes, epidemic and sporadic, benign and malignant cases, hospital and private practice, and that of civil and military, of war and peace, and all circumstances which modify the nature and course of typhoid fever. And the treatment, too, while in the main the employment of cold baths, is not the method of Brand, but rather such modifications in each case as suited the individual clinician reporting. The following cases, which are available for use, are partly from my monograph, and partly new :

	CASES.	DEATHS.	MORTALITY
1. Wiedner	20	00	0.0 per cent.
2. Winternitz	86	2	2.3 " "
3. Cayla	63	4	6.3 " "
4. Jürgensen (Kiel)	160	5	3.1 " "
5. Opitz	66	0	0.0 " "
6. Scholz	125	5	4.0 " "
7. Popper	20	1	5.0 " "
8. Riegel	156	7	4.4 " "
9. Stöhr	120	8	6.6 " "
10. Leichtenstern	373	21	5.4 " "
11. Rollet	126	4	3.1 " "
12. Hayfelder	21	0	0.0 " "
13. Pfeifer	58	3	5.2 " "
14. Jürgensen (Tübingen)	220	4	1.8 " "
15. Tripier and Bouveret	233	20	8.5 " "
16. Ballivet (Thoiry)	73	3	4.1 " "
17. Rondet and Grabinisky (Curis)	11	0	0.0 " "
18. " " (St. Germain)	33	0	0.0 " "
19. " " (Neuville)	122	6	4.9 " "
20. Glénard	56	1	0.5 " "
21. Vogl	221	6	2.7 " "
22. Garison Hospital II. Army Corps, 1882-5	2711	117	4.3 " "
23. Brand (entire practice)	479	17	3.5 " "
	5573	234	3.9 per cent.

A few of Jürgensen's cases reported above may have had occasionally other treatment in addition to the baths, but all of the others had systematic water treatment. Hence we may say that the mortality is from 4 to 8 per cent. instead of 16 to 20 per cent. under the expectant treatment. In this table the mortality above 4 per cent. is not due to the inefficiency of the hydrotherapeutic treatment, but to special circumstances. To illustrate, Tripier and Bouveret report that during the first two years they subjected only the most severe cases to the water treatment, and also did not carry it out fully. They say that they will not again have to report a mortality greater than 5 per cent., and in fact M. Tessier (*Lyons Medical*, No. 32) reports 139 cases with 7 deaths, or 5 per cent. In my opinion the mortality at Lyons will be still lower if they will diminish the number of contra indications, and will treat the complicated and severe cases according to my plan. There is always a risk, since there is occasionally a case which will prove fatal if the treatment is not begun at the beginning of the attack.

Popper, Stöhr, and Leichtenstern report a mortality over 4 per cent., but their statistics date from a time when the treat-

ment and nourishment were not so precise as they have been since 1877.

The mortality of the second army corps is 4.3 per cent., but for the entire German army for the same period it is 8.3 per cent. In the second army corps the diagnosis of typhoid fever is never made, unless, in addition to the characteristic symptoms, the fever lasts sixteen days, and cases are not considered severe unless the fever lasts twenty-one days and is over 40°C. (104°F.). In this corps the mortality from 1882 to 1886 ranged as follows: 1882-3, 3.56 per cent.; 1883-4, 6.53 per cent.; 1884-5, 3.57 per cent.; 1885-6, 3.19 per cent. A basis for the statement that a mortality of 4 per cent. is too high lies in the fact that statistics are incorrect, many of the cases reported either never having had a drop of water used in the treatment or having died before the use of the baths had time to produce its characteristic effect. Numbers 2 and 10 in my own death list belong in this category. No. 2 had received only one bath, and No. 10 died under the care of another physician during my absence.

Of Jürgensen's 4 fatal cases 3 were not bathed at all, and among the 6 deaths in the Pomeranian military hospital (1885-6) 2 were treated exclusively with antipyrin. One must not forget that under any method of treatment a very great number of cases of typhoid fever in succession will recover, and consequently one must avoid the *post hoc ergo propter hoc* fallacy.

In those cases in which a predisposition to complications exists, or in which indeed the complications already exist, the treatment has nothing whatever to do with the typhoid fever, but rather with the croupous, diphtheritic, pyæmic or septic processes, all of which have special indications of their own. I want to make this condition clear, since otherwise an intelli-

gent judgment of the water treatment cannot be arrived at. The idea that complicated and degenerated (*sic*) cases are the ones with which to test the treatment is incorrect, for with such cases a special treatment for the typhoid fever has nothing to do. That in such doubtful cases the water treatment, according to other indications, may be of assistance is a topic for separate consideration, and is discussed in my monograph.

The establishment of a light course in every case of typhoid fever is the object of the systematic water treatment, and that no death occurs is the proof that the object is accomplished. In my opinion that is a demonstration so safe and radical that no one can have aught against it. It is to be expected that one may say, "You go too far," but on the contrary we can not go too far in this treatment of typhoid fever.

In the use of statistics in this connection it is necessary:

1. That the number of observed cases must be as great as possible, including many hundred.
2. That they must be included in a period of many years.
3. That both sexes, all ages, social conditions, constitutions and temperaments, must be included.
4. That so far as possible all primary complications must be present.
5. That the cases must come under treatment at the beginning of the attack, and be treated regularly and systematically.

For this purpose hospital statistics are not suitable, because the cases are not treated from the beginning of the attack. The most suitable material is furnished by the so-called house-physician practice (*hausärztliche Praxis*), that kind of practice in which the physician is employed not only to treat disease after it is developed, but also to prevent its occurrence. In such a practice the cases are seen at the very outset of the attack.

As an exception to all others, Jürgensen's polyclinic in Tübingen furnishes substantially these conditions. The military hospitals occasionally furnish statistics of high value. Those of Vogl are especially trustworthy. The following table is composed of the only reliable reports given in the preceding long list:

	CASES.	DEATHS
1. Jürgensen (Tübingen).....	217	1
2. Vogl (Munich).....	221	6
3. Military hospital, Stralsund, 1877-82.....	257	1
4. do in Stettin, 1877-82.....	186	3
5. Brand (Hausärztliche Praxis).....	342	1
	1,223	12

NOTE: Three cases are excluded from the number reported by Jürgensen, because they were treated with antipyretics.

Although some other military statistics are more favorable, I have selected those given in this last table because the first can be confirmed by reference to the Sanitary Reports, and because the second have occurred, as it were, under my own eye. My own 342 cases cover a period of 30 years, and include all primary complications. An analysis of the 12 fatal cases is as follows:

Jürgensen.—1. Treatment begun on the ninth day. Death from perforation and peritonitis.

Vogl.—2. Treatment begun on the eighth day. Death from fever.

3. Treatment begun on the sixth day. Death from phlegmonous glossitis.

4. Treatment begun in second week. Death from cardiac weakness.

5. Day of beginning treatment unknown, "already tired for a long time." Death from hemorrhagic diathesis.

6. Treatment begun in the second week. Death from cardiac weakness.

7. Day of beginning treatment not given, temperature 41° C. ($105^{\circ}.8$ F.) evidently late in illness. Death from lesion of larynx and œdema of the lungs.

Stralsund.—8. Treatment begun on the fourteenth day. Intestinal hemorrhage, diphtheria, petechiæ double hypostatic congestion.

Stettin.—9. Treatment begun on the fourteenth day. Pneumonia and intestinal hemorrhage.

10. Treatment begun on the sixth day. Because of inflammation of the joints treatment was stopped.

11. Treatment begun on the sixth day. Death from retropharyngeal abscess.

Brand.—12. Treatment begun on the fifth day. Death in a relapse from some unknown cause.

The tenth and twelfth cases do not properly belong in this list. In the others death resulted either from the fever itself or its complications. In 1877, basing the conclusion upon an analysis of 975 cases, I concluded that the treatment must begin before the fifth day; and these 12 cases confirm that conclusion, all cases recovering in which the treatment was begun before the fifth day.

That is to say, the systematic water treatment has, in all cases in which it was employed early and thoroughly, a mortality figure of 0 per cent., and is really a special treatment, as such is and must be. *It is also, therefore, an ideal treatment, since through it the physician is in a position to save the life of the patient with certainty.*

I by no means say that every typhoid fever case treated by the water treatment must recover, but I have said and repeat that those cases in which treatment according to the

method of Brand is begun before the fifth day, and is thoroughly carried out, surely recover.

To recapitulate, the mortality under the systematic water treatment will average as follows:

a.	In "hausärztlichen" practice	0-1 per cent.
b.	In military hospitals	3-4 " "
c.	In private practice	3-4 " "
d.	In general hospitals	5 per cent.

At this point in the discussion the author briefly reviews the history of the various methods of treatment of typhoid fever, from the "expectant-symptomatic," in vogue before the fifth decade of the present century, to the present, which he summarizes as follows:

1. Expectant-symptomatic.
2. The old Liebermeister method with all possible variations.
3. The new Liebermeister.
4. The systematic water treatment.
5. The antibacteria method.

He says that the physician is obliged to select from these methods that one which best accomplishes its claims, and asserts that an intelligent choice of method cannot be made upon any other ground.

"Every case treated according to the method of Brand will confirm this principle. Under this treatment it will always happen that—

1. During the action of the baths the process (typhoid) is quiet.
2. At the beginning of an exacerbation it starts up again, and if not combated, continues.
3. With the rise in temperature the functional disturbances appear—a manifest cause and effect.

4. The effect of the bath upon the height of the fever is less than at the beginning.

5. The exacerbation is prevented.

6. The failure to combat the exacerbation brings evils which become more difficult and at times impossible to control, and through repeated failures to combat seem to develop cumulative power. These facts form the basis of the treatment of typhoid fever.

They do not show with a clearness which leaves nothing to be desired just what the treatment of typhoid fever should be, but they furnish an occasional glimpse as to the role which the elevation of temperature plays in the course, process, etc., of the fever.

It therefore follows that, in the treatment of typhoid fever *a*—the severe process should be controlled and the course changed to a light one; *b*—every exacerbation prevented; and *c*—every functional lesion rendered less severe. These demands furnish the indications, which are: *Prevention of every exacerbation, with or without elevation of temperature, throughout the entire illness, day and night, from the beginning to the end.*

It has been already shown above that this can be accomplished by means of the water treatment; and the method is expressed in the formula: *Every 3 hours a cold bath, 15° R. (59° F.) lasting 15 minutes, as long as the temperature rises above 39° C. (102° F.), combined with cold douching and frequently changed compresses over the abdomen.*

Through such baths, repeated regularly at that interval, the exacerbation will be prevented, and the organs rendered capable of their normal functional activity. It is here to be said that only such baths will have this effect which produce abstraction of heat and stimulation. Those which produce only one

of these effects will not suffice. When the elevation of the body temperature obstinately remains, the baths must be colder and longer. Vogl, Tripier, Bouveret and Jürgensen repeat the baths at shorter intervals, in such cases, but I do not. If functional disturbances occur at a temperature below 39°C the stimulating treatment is required, viz., tepid baths with cold douching and strong friction.

Of course such conditions as *vitium cordis* occurring as a primary complication present special situations which must be met. All such complicated situations are fully discussed in my monograph. As is well known, one has less to do in the complicated cases with the typhoid fever than with their *sequelæ*,—tuberculosis pulmonum, cardiac weakness and brain lesions—in short, the increasing functional disturbances of all organs and the accompanying septic, pyæmic and croupous processes. While in an uncomplicated typhoid case the combination of the heat-abstraction with the stimulation is indicated as anti-febrile treatment, in a complicated and degenerated case, stimulation and revulsion are necessary to combat the functional disturbances and local lesions. This condition, or differentiation, is not as yet sufficiently observed, and hence many errors in treatment have arisen. The most common is, that in low temperature three hours after the bath, it is not repeated although severe symptoms on the side of the brain, lungs, heart, and kidneys are present. Of course in such conditions the nature of the bath must be suitable, and the otherwise useful cold bath must not be given. The formula as given applies to the very great majority of cases, and cannot be changed except at the expense of the safety of the result.

The author proposes the question: “Is it possible with the other methods of treatment which obtain to-day to meet the demands in typhoid fever, as well as with the water treat-

ment?" With the "other methods" the author deals summarily. He condemns the symptomatic-expectant treatment upon the ground that since it waits for the rise in temperature before combating it, it is impossible for it to do as well as a method which seeks to prevent its occurrence.

The earlier Liebermeister method is open to a similar objection. The present method of Liebermeister treats the temperature as the most important condition of the typhoid case, which it by no means is, but rather a small part of the process, and its greatest error is the assumption that after the morning remission the course of the process during the day is of no importance. Ziemsen, using this method of Liebermeister, reported the following mortality: For 1882, 10.2%; for 1883, 18.6%. "The author claims that the method of treatment by means of prolonged baths, the method of Riess, is open to the same objections as those of Liebermeister are. In regard to the treatment with thallin the author remarks: 1. A poisoning of the body lasting for 4 or 6 weeks cannot be a desirable thing. 2. Sweatings and rigors are added to the typhoid fever symptoms. 3. That one cannot accomplish much of value in typhoid or febrile diseases by means of a medicine which has only an antipyretic action. 4. The convalescence is protracted (Jacksch, *Verhandlungen des Congress für innere Medicin*, 1885). The author also thinks that the same objections hold good against the use of antipyrin, and he cites the clinical notes of two fatal cases to establish his position.

In regard to the antibacterial or the bacteriacide treatment, the author thinks that it is both not new and not established, having been tried thirty or forty years ago at Hamburg.

The articles close with the following statements: "Jürgensen has thoroughly proved all methods which have appeared during the course of years, and is more and more inclined to

return to the systematic water treatment. (*Verhandlungen des Congress für innere Medicin, 1882, p. 102*). At the same congress Liebermeister closed his remarks with the following sentence: "Experience has shown that brilliant results in the treatment of severe febrile cases are obtained only when cold baths are the foundation of the treatment."

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ABSCESS IN THE BRAIN RESULTING FROM DISEASE OF THE EAR.

—By THOMAS BARR, M. D., *Surgeon to the Glasgow Ear Hospital.*

It is generally admitted that where abscess in the brain is not due to an injury, it depends usually upon some other pre-existing purulent center, and I shall limit my remarks to that frequent form of abscess in the brain which has its origin in a pre-existing purulent center in the ear.

What is the situation and what is the nature of the ear disease in such cases? The situation is almost invariably, in the first case at all events, in the middle ear. Many of the published records mention the internal ear as the source of the mischief. This is a mistake. No doubt the internal ear as well as the external ear, is sometimes implicated, but then nearly always secondary to the middle ear affection. The air-filled cavities of the middle ear, especially the tympanum, the antrum mastoideum, and the mastoid cells, are primarily and essentially the seats of the mischief in the ear. What is the nature of the disease? It is a chronic purulent inflammation in the lining membrane of these cavities.

The acute form of purulent inflammation of the middle ear is very rarely, if ever, the cause of intracranial disease. This chronic inflammation leads to partial destruction of the tym-

panic membrane, more or less accumulation of decomposing purulent secretion, and frequently to the formation of granulation-tissue or polypi. The long walls of the middle ear are usually sooner or later involved, either by the occurrence of caries or necrosis, or by hyperostotic or sclerotic changes leading to contraction of the normal cavities of the ear, or to the conversion of the mastoid cells into dense osseous tissue of almost ivory consistence. For months or years, or even a lifetime, the sufferers from this disease go about, usually not at all disconcerted, with purulent septic centers in the interior of their temporal bones. This predisposing cause of cerebral abscess is thus constantly with us in the persons of hundreds and thousands of the community. At the Glasgow Ear Hospital alone, there are usually 300 to 400 persons who annually present themselves suffering from this affection; but it has been noted by various observers, including myself, that, in addition to this predisposing, there is also usually an exciting cause which provokes the mischief in the brain. An injury, such as a blow upon the head or ear, or an irritating influence acting upon the ear, is frequently found to immediately precede the pain in the head or the vomiting which ushers in the graver illness. In nine cases which have come under my own observation, one followed a box on the affected ear, one was due to a blow on the back of the head inflicted with the open hand; in another, the act of diving in the sea, and the consequent rush of cold water into the affected ear, immediately preceded the head-symptoms; in two, the symptoms followed within two or three days of surgical manipulation in the ear, while in the case of the boy who was operated upon by Dr. MacEwen, the exciting cause was probably connected with his fondness for "headers" in playing at football. In a certain proportion of such cases there may have been really a

cerebral abscess in a latent form, existing perhaps for months or years, manifesting itself by no definite symptoms until the blow or irritation aroused a new and energetic process in the direction of increased formation of pus or of a fresh inflammation in the walls or in the vicinity of the abscess.

What proportion of cases of abscess in the brain depends upon disease of the ear? There is a general consensus of opinion that ear-disease is distinctly the most frequent cause of cerebral abscess. In the synoptical record of seventy-six cases given by Sir William Gull and Dr. Sutton in their article on "Abscess of the Brain," published in 1872, in Reynolds' *System of Medicine*, twenty-seven cases, or rather more than one-third, were consequent upon ear-disease. In Lebert's article in Virchow's *Archiv.* for 1856, vol. x, based upon eighty cases of cerebral abscess, the proportion given is one in four. But in many of the cases not attributed to the ear, given by these authors, the middle ear had not, it was evident, been examined, while in a goodly number the disease was said to have originated in a blow, which may be quite compatible with its real origin in ear-disease. In the article in Reynolds' *System of Medicine*, there are ten, I think, in which no cause is mentioned. We know that up to the time at which these articles were prepared the hearing organ was very little examined, either in the clinical wards, or in the *post-mortem* room. We know also that purulent disease may exist in the middle ear without the knowledge of the friends of the patient, or even of the patient himself. Unless therefore the middle ear had been examined in every one of these cases, we are not in a position to say that these 47 cases in 156 of cerebral abscess give

a correct notion of the extent to which ear-disease accounts for cerebral abscess. I am confident that persons die from abscess of the brain, originating in the ear, without the aural origin being known, because the friends of the patient may not be aware of the state of the ear, or may not deem the so-called "running ear" worthy of being mentioned to the medical attendant. Judging from the numerous cases scattered through medical literature and published within the past ten years, during which more close attention has been given to the ear in such cases, and also from the experience of our own hospitals, we are, I think, justified in attributing fully one-half of the cases of abscess in the brain to purulent disease of the ear. As time goes on and as medical men come to use the ear speculum in every case presenting symptoms of cerebral disturbance, the frequency with which ear-disease leads to a fatal issue will be found to be greater than has hitherto been suspected. In looking over the Registrar-General's Annual Reports, I find that the number of deaths in London attributed to otorrhœa, most of which would be due to abscess in the brain, in the year 1882 was eighty-six, and in the eight principal towns of Scotland the number for one year was twenty-six. I think we are entitled to conclude that those numbers, considerable as they are, do not express anything like the real number of victims to this disease who perish annually in London and the eight principal towns in Scotland.

A very important question, especially as bearing upon the operation of trephining the skull in such cases, is as to the most frequent situation of the abscess, and as to the condition of its walls and contents (I speak of course with reference to those originating in the ear). It is unfortunate that

in many of the published records these points, especially the state of the walls and contents of the abscess, are not given with that carefulness and minuteness which would have been desirable. In seven cases which came under my own notice, where *post-mortem* examinations were made, the abscess was, in six of them, in the temporo-sphenoidal lobe, above the affected ear. In one of these six there was, in addition, complete occlusion of the lateral sinus, whose walls were converted into a fibrous cord, and there was also a collection of pus in the region of the lateral sinus. In the seventh case the purulent secretion existed between the dura mater and bone, over the posterior surface of the petrous part of the temporal bone. In all my cases the odor from the abscess was extremely foetid, almost gangrenous, and the pus was generally of a greenish color. In regard to the condition of the walls of the abscess, there was in three of my cases a distinct limiting membrane, encapsuling the abscess and separating it from the neighboring brain-tissue. In the others there was no limiting membrane, the neighboring brain-tissues being soft, broken down, or sloughy. In addition to my own cases I have, in order to gain fuller information especially as to the position of the abscess, gone over the published records of others, in which the abscess in the brain was dependent on ear disease. The whole included 76 cases, of which the abscess was in the cerebrum (generally described as the middle lobe) in 55 cases, or about 73 per cent. of the whole ; in the cerebellum, 13 ; in the cerebrum and cerebellum, 4 ; in the pons varolii, 2 ; and in the crus cerebelli in one case. In 9 cases the abscess was said to be encysted, but unfortunately in the greater number there is no information given on this point. As to the con-

dition of the abscess-contents in regard to odor, there is also very little information given in these sixty-nine cases, but when any reference is made to odor, it is described as foetid. In all the abscess was on the same side as the ear diseased. Rare cases have, it is well known, been recorded, of the abscess being on the opposite side. How is the disease in the middle ear propagated to the interior of the cranium? There are two main directions by which this extension takes place; first, and most frequently, by the roof of the tympanum and antrum mastoideum, to the middle fossa of the cranium, and to the temporo-sphenoidal lobe of the cerebrum above. As shown by the published records of these cases, already mentioned, this is by far the most frequent path by which the disease invades the interior of the cranium. Here the septic purulent focus is separated from the brain above by osseous partition which is never thick, and frequently so thin as to be transparent. It is always perforated with apertures for connective tissue, vessels and nerves. Gaps are not infrequently found, and at these the dura mater and the mucous membrane of the middle ear are in direct contact, while in childhood a very distinct fissure often exists, through which a process of dura mater, with vessels and nerves, passes down and becomes continuous with the mucous membrane lining the tympanum. By simple continuity and contiguity, therefore, without a carious aperture, the diseased process may readily pass upwards to the dura mater and brain, giving rise to a subdural or a cerebral abscess. I show you here four temporal bones where carious apertures will be seen in this situation in all of them.

The second way, in point of frequency and importance,

by which the disease in the middle ear extends to the interior of the cranium, is by the inner wall of the antrum and mastoid cells to the dura mater lining the posterior fossa, and to the cerebellum, giving rise to a sub-dural collection of matter, or a cerebellar abscess, or both. Here we have in the deep concavity of the groove for the lateral sinus only a thin osseous partition separating the walls of the sinus from the mastoid cells. It has also the peculiarities mentioned as belonging to the roof of the middle ear—namely perforations, and frequently gaps. In two of the specimens shown by me to-night it will be seen that there are carious erosions and perforations; but, without such disease of the bone, simple juxtaposition of the lateral sinus with the ear, in suppurative disease of the latter, is a source of great danger. All surgeons know that phlebitis and thrombosis are very apt to form in the vessels of a tissue which is the seat of a purulent inflammation; and is it surprising that phlebitis and thrombosis should be frequently set up in this large venous trunk, so closely contiguous to, and so connected by blood-vessels with, the diseased part? Probably some degree of phlebitis of the lateral sinus is not an infrequent complication of purulent disease of the ear. The mischief is, however, in most cases limited to some thickening of its walls, and to a consequent diminution of its lumen.

In either or both of these situations, therefore, disease of the ear most frequently affects the interior of the cranium; and, while carious apertures are by no means always present there, they are frequently found. They are usually found in the roof of the middle ear when the temporo-sphenoidal lobe is involved, and in the region of the lateral

sinus when the cerebellum is the seat of the abscess. In my own cases, five out of seven contained carious apertures; in the other sixty-nine which I have gone over, it is mentioned in twenty-seven cases that caries existed in the petrous or temporal bone, but no precise information is given as to the situation; it was apparent in many of them that this point had not been sufficiently observed. In regard to the mode of extension from the middle ear to the interior of the cranium, there is no doubt that in some, although not in many, the purulent contents of the middle ear, pent up and hindered by some obstruction from escaping through the outer channels of the ear, burst through a carious aperture or natural foramen, or a gap, into the middle or posterior fossa, burrowing between the dura mater and bone, or, if the dura mater has been previously softened and perforated, making its way into the arachnoid space, or into the tissue of the brain itself. But probably more frequently, even where caries does exist, there is simply a direct transmission, by vessels and lymphatics, of the septic inflammation from the cavities of the middle ear to the dura mater and its sinuses in the first place; and then, by contact, an inflammation of a similar character affects the pia mater and brain. In those cases—which, I think, are not very frequent—where the parts between the brain-abscess and the middle ear seem to be healthy, the propagation probably takes place by the immigration of bacteria from the purulent focus in the ear along the lymphatics surrounding these branches of the internal auditory artery which anastomose with the vessels of the pia mater, and thus reach the interior of the brain. Multitudes of bacteria have been found in a cerebral abscess a few hours after death. Dr. James Alexander

Adams suggests that the bacteria reach the brain through the veins ; that, where the lateral sinus is occluded, there is a backward current of venous blood. In this way, it is suggested, bacteria attached to thrombi carried from the ear by the veins which pass into the sinuses of the dura mater find their way into the interior of the brain.

There is no doubt that pus from an abscess in the brain sometimes makes its way into the ear, probably through the roof of the middle ear. In the case in which Dr. MacEwen operated there was unquestionably a partial escape of the matter from the brain into the ear for two or three days before the operation, but this was attended by no improvement in the symptoms. Some of the older writers describe an "*otorrhœa cerebialis*," in which the abscess in the brain was thought to be the primary condition, the discharge from the ear being secondary, and coming directly from the abscess in the brain. The opinion now generally held is that in all such cases the ear-disease is the primary condition and the cause of the brain-abscess. I was very much interested, however, in being informed by Dr. McLeod that he saw a case of cerebral abscess in the frontal lobe due to an injury, and associated with necrosed bone over the seat of the abscess, in which the matter was proved to have made its way along the base of the skull to the roof of the external auditory canal, through which it penetrated, and found exit by the outer orifice of the ear.

Finally, with respect to treatment, the recent cases of Mr. Barker, Professor Greenfield, and Dr. MacEwen have inaugurated a new era in the previously hopeless, dismally hopeless, cases of cerebral abscess. Previous to the cases of these gentlemen, I know of only two recorded instances

of recovery after opening the skull for cerebral abscess, both due to ear-disease. One was reported by C. Tauckenbrod, of Hamburg, in the *Archives of Otology*, vol. xv, Nos. 2 and 3, 1886. In this case, the mastoid process was opened first, and a quantity of fœtid caseous matter washed out. The opening in the wall of the skull was made by chiseling backwards and upwards for a distance of about three centimeters from the opening in the mastoid. A small rough place was found in the bone, and here a piece was chiseled off, and the dura mater exposed. There was pus between the dura mater and bone; and, on puncturing the brain at this part, a cupful of matter escaped. The abscess-cavity was syringed with a solution of corrosive sublimate. Ultimate recovery took place, and the patient followed his occupation of architect, his only drawback being a certain degree of word-forgetfulness, aphasia having been a striking feature in the symptoms previous to the operation.

The other case was by Dr. Schondorff, described in the *Monatschrift für Ohrenheilkunde*, 1885, No. 2. Here there was a fistular orifice in the skull leading to the brain; where the abscess existed. It will be seen that these two cases are different from the recent ones in this important respect—that, in the former, there were affections of the bones of the skull indicating the probable seat of the matter, while in the latter no such indications existed. It is quite clear that, in the future, persons suffering from abscess in the brain, dependent upon ear-disease, should not be left to die as they have been in the past without an effort being made by opening the interior of the cranium to reach and drain the abscess; and an important question—which, perhaps, cannot be settled until further experience has been gained—is,

how can the abscess be best reached, and how can it be most efficiently drained?

Speaking of abscess in the temporo-sphenoidal lobe, the most common form, it might be said that if we could penetrate the floor of the middle fossa of the skull through the roof of the middle ear, we would get access to the most dependent part of the abscess in the brain, or to any collection of matter between the bone and the dura mater; such a method would also imitate that by which Nature sometimes attempts to get rid of the matter. This plan has been attempted and it failed.

A case is reported by Dr. Sutphen, of America (*Archives of Otology*, 1884), in which an opening was drilled with a trocar in the roof of the tympanum, and no pus escaped, although after death a large collection was found in the brain above. The great objection to this mode of operating is the difficulty of making and maintaining a sufficiently large opening for the escape of the pus, in such a narrow space as the tympanic cavity, made still more narrow by inflammatory swelling. The plan pursued by Dr. MacEwen seems to be the most practicable, namely, to open the skull about two inches above the ear, and, when the abscess is found, to make another opening lower down, nearly on a level with the floor of the middle fossa of the skull. If a current of fluid can be made to pass from the upper to the lower openings, thorough cleansing would be ensured. I am not sure of the desirability of invariably opening into the mastoid cells as preliminary to the larger operation. If a case presented indisputable signs of intracranial mischief, and if there was neither redness, swelling, nor tenderness over the mastoid process, I question the propriety of opening into

the latter. No doubt we would often find caseous matter, in examining the cavities of the middle ear after death, in any person who has suffered from chronic suppurative inflammation; although his death may have had no relation thereto, caseous matter would be found. In a person who has possibly meningitis or a cerebral abscess, it is questionable practice to submit the cranium, without a very important reason, to the concussion caused by striking a chisel with a mallet, this having been hitherto regarded as the safest mode of opening the mastoid cells. Again, if the lateral sinus is far forward, which it not infrequently is, great care indeed is required to avoid doing serious injury.

In a temporal bone from a case of cerebral abscess which occurred in the Ear Hospital in September last, it was seen that only one-twelfth of an inch intervened between that part of the outer surface of the bone where it is recommended that the perforation should be made and the lateral sinus. If an attempt had been made to trephine or drill the bone at this position, there would have been great danger of fatally wounding the lateral sinus.

I may conclude with one remark as to preventive treatment. It is this—that when every member of our profession is sufficiently impressed with the importance of chronic suppurative inflammation of the middle ear, and prepared to efficiently treat this disease in all its stages, the occasion for this operation will probably seldom arise.—*British Medical Journal*.

UNTOWARD EFFECTS OF COCAINE.

The varied and constant use of the hydrochlorate of cocaine by almost every practitioner of medicine renders imperative attention to the fact that this drug may act as a

poison, since a very large number of well-authenticated cases of this character are now on record. While almost every reader of the current medical journals can recall the report of some case in which serious symptoms asserted themselves, the literature of the subject is so scattered that little attention has been given to it. Within the last few weeks, however, quite a large number of cases have been recorded in various medical periodicals, especially in Great Britain.

One of the first things which strikes the reader of these reports is the fact that no particular line of symptoms appears to be characteristic, and that the doses reported as producing toxic symptoms vary even more than the unlooked-for results themselves.

In England, where the practice of using cocaine hypodermatically for the purpose of producing local anæsthesia seems to be carried on much more fully than in this country, surgeons have reached the most varied conclusions as to the dose which may be safely given in this manner. Some insist that as much as four grains may be given under the skin, while others report very serious poisonings from the use of one grain. Thus Magill records the case of a strong, healthy man to whom he gave, previous to an operation for phimosis, a hypodermatic injection of one grain. In fifteen minutes the man was extremely pale and suffered from severe præcordial pain. The pulse was very slow and intermittent, but did not resemble that present when syncope is impending ; complete recovery took place in twenty minutes. More remarkable even than this is the record of seventeen cases gathered by Ziem, of Dantzig, in 1885, in which decided toxic effects occurred simply through instillations of the drug into the eye, and in which the amount of

cocaine reaching the general system must have been very small indeed.

The symptoms which assert themselves are, as has just been stated, remarkable for their variety, and they range in severity from slight systemic depression to temporary blindness, or even syncope and collapse. Robson records a case in which aphasia followed its use in the removal of a nasal polypus, while Littlewood has seen great loquacity, and finally syncope, follow the hypodermatic administration of sixty minims of a six-per-cent. solution.

The interesting question in regard to this matter is the cause of the production of these symptoms and the best method for their avoidance. Unfortunately, there seems to be no fixed rule on which we can depend, since the causes themselves are as yet not by any means understood. Naturally idiosyncrasy occurs to the mind of every one as the most likely explanation, and this idea is somewhat strengthened, perhaps, by the various effects produced.

Again, it may be that the sudden and enormous demand has led to the placing on the market of adulterated or carelessly prepared samples of the drug, and if this be the case the reports of toxic effects should be constantly on the decrease, since at present the supply and demand are so nearly balanced. Whatever may be the explanation, it certainly seems of the greatest importance that the profession in general be reminded that cocaine is not to be used recklessly and without proper care.—*Medical News*.

A FORM OF GONORRHOEAL CONJUNCTIVITIS NOT DEPENDENT UPON INOCULATION.

The general recognition of the fact that the malignant purulent ophthalmia which occurs with gonorrhœa is due to

direct inoculation with the urethral discharge, has often caused it to be forgotten that there is another form of conjunctivitis, which also depends upon gonorrhœa, but is not caused by inoculation. Its existence was recognized by Abernethy, who described cases in which urethritis, articular rheumatism, and an irritative ophthalmia alternated in their occurrence, or in their severity. Most modern writers, however, have looked upon gonorrhœa almost entirely as a local affection, and have ignored the possibility of its affecting the eye, except through direct application of the discharge. In a paper published in Knapp's *Archiv.* (June, 1886), Dr. Haltenhoff, besides quoting cases mentioned by other writers, gives four of his own, in which it seems probable that inoculation played no part. The conjunctival injection is less than in the ordinary cases, and the secretion mucous rather than purulent; but the most distinctive features are the occurrence of multiple arthritis, the simultaneous affection of both eyes, and the tendency to recur with each attack of gonorrhœa, although, in subsequent attacks, the patient has been careful to shield his eyes from all risk of inoculation. Professor White, of Philadelphia, considers this form of gonorrhœal ophthalmia more common than that induced by inoculation.—*British Medical Journal.*

COMPARISON OF THE METHODS OF REMOVAL OF CATARACT
WITH AND WITHOUT IRIDECTOMY. BY DR. H. KNAPP, *of*
New York.

If we compare the simple extraction with the extraction combined with iridectomy, we find as advantages of the former the following:

1. It preserves the natural appearance of the eye.

2. The acuteness of vision, other things being equal, is greater.

3. Eccentric vision and "orientation" (correct localization of objects in the visual field) are much better, adding a great deal to the comfort and safety of the patient.

4. Parts in direct connection with the ciliary body, such as shreds of the capsule and iris, are not so liable to be locked up in the wound and thus transmit morbid conditions to the most vulnerable part of the eye, the ciliary body.

5. It may not necessitate so many after-operations.

As *disadvantages* may be mentioned:

1. The technique of the operation is more difficult in all its parts: (a) The section must be larger, to let the lens pass through an aperture the size of which is diminished by the iris lying in it; it must be more accurate to secure coaptation, and it must be more rapidly performed in order to prevent the iris from falling before the knife. (b) The opening of the capsule requires a deeper introduction of the cystitome into the anterior chamber. (c) The expulsion of the lens is more difficult, and (d) the cleansing of the pupillary area is much more troublesome than in the combined extraction.

2. Prolapse of iris and posterior synechiæ are more numerous.

3. It requires a quieter and more manageable patient during and after the operation than is needed in the combined extraction.

4. It is not applicable to all patients, whereas combined extraction can be used as a general method.—*Archives of Ophthalmology for March, 1887.*

ON THE MANAGEMENT OF PERFORATIONS OF THE MEMBRANA TYMPANI.—By SIR WILLIAM B. DALBY, F. R. C. S., M. B. (*Cantab.*) *Aural Surgeon to St. George's Hospital.*

If any examples of a morbid condition of the body might be described as having individualities of their own, as exhibiting various moods, or showing diversity of behavior under treatment, surely it would be perforations of the tympanic membrane. To those who are in the daily habit of observing how soon they occasionally heal, how for long periods they do not heal (periods to be measured by years, and even by long life-times), how tolerant at one time they are of manipulation and of treatment, how intolerant at others, how susceptible to climate, to diet (especially in the matter of stimulants), they indeed display an "infinite variety."

Occasionally there may be found fragmentary additions to medical literature in which this application or the other is recommended as the best treatment for perforations. Now, although many of these applications are useful under appropriate conditions, I fear it is nearer the truth to say there is no best treatment that may be employed by those who appreciate the interesting variety referred to as belonging to perforations.

To begin with early life. Of all children who during their infancy have a purulent discharge from the ear, after a few hours of pain in the ear (the position of the pain being generally unrecognised at the time), how very small a proportion are submitted to an examination of the membrana tympani! When in isolated cases they are so examined at the time of the discharge, is it not almost the rule that the membrane is found to be perforated? The probabilities, therefore, are that in all, or at least most of them, these discharges are accompanied at the time by perforation. I say at the time,

for when the membrane is examined weeks or months after the discharge has ceased, it is often discovered to be entire. We must admit, then, that during infant life the membrane is extremely prone to become perforated, and happily equally prone to heal. This view must have occurred to so many that it is only necessary to mention it, in order that either the occurrence of the perforation or its healing should not excite surprise with those who see comparatively little of ear-disease.

What is still further deserving of notice is that the majority of these children, when they grow up, hear well. If this fortunate ending of the affair is occasionally in part due to the fact that there has been no local interference, it does not follow that nothing in the way of management should be done for recent infantile perforations ; but I feel convinced that they are better without treatment, if such treatment includes mineral astringents in solution ; the sulphate of zinc and acetate of lead lotions, which used to be thought as necessary for a perforation as iron and quinine mixtures and Latin verses are still for the English boy, are worse than useless. Scrupulous cleanliness—not only by removing discharge from the meatus, but by its expulsion from the tympanic cavity, vegetable astringents, and protection from the action of external air—include the routine of treatment under which the perforations are aided in healing. The same will apply to the treatment of recent perforations in adults, and when the perforation has healed, so long as there is undue secretion within the tympanum, if the case is treated as one of catarrh, the best possible results as to future hearing will follow. Why, then, do we find so many perforations which have occurred from simple catarrhal inflammation either permanent, or, if they heal, leaving such considerable losses in hearing? Of course the disorganization of the tympanic cavity (the result of inflammation)

must be taken into account; but, having excluded this element, I cannot but think this is sometimes due to the pardonable anxiety of the patients to (as they express it) "stop the discharge," and so they resort to anything that offers this prospect.

No doubt, for a time, the mineral astringent will do this, but it does more—it stops the healing, and it stops the hearing. For it astringes the tympanic end of the Eustachian tube; it prevents the possibility of expelling the discharge from the tympanum through the perforation; it allows the discharge to collect in the tympanic cavity, and become inspissated; it causes cicatrization of the edges of the perforation—in short, it does not give the lesion a chance of repair. More than this, when the mineral astringent whose motto is, "Stop the discharge," is discontinued, the discharge comes on as before, so it indifferently fulfils its own motto. I suspect that the advertised lotions and drops for the ear which patients obtain and use on their own responsibility contain mineral astringents in considerable quantities, as they sometimes cause great pain, and excite inflammation as soon as they reach the perforation. If it is thought that the expulsion of the discharge from the tympanum through the perforation tends to keep open the perforation, let it be remembered (and it is a matter of common knowledge) that if a membrane is inclined to heal, nothing of this kind prevents it; of this fact we have ample evidence in the case of perforations made for remedial purposes in cases of chronic proliferous catarrh; and it surely is desirable in the instance of perforation caused by disease that at the time when this happens as little as possible of the products of inflammation should be left within the tympanic cavity.

And now in regard to the tolerance or intolerance respec-

tively which perforations of long standing exhibit to well recognized and useful applications. Take for example the case of alcohol. Many perforations with unhealthy edges, discharging in large quantities from the tympanum, at once become more healthy under the use of alcohol in various dilutions; but to some, alcohol, even extremely diluted, is most painful and irritating. This is especially noticeable if the perforation is of small size. How can it safely be said in a general way that alcohol is a good treatment for perforations? The same may be said of iodoform or boracic acid. What satisfactory results either of these applications often produces in old perforations with bone granulations and a foetid discharge! But the fact that they occasionally set up irritation is enough to prevent me, and probably many others, from recommending them when the patient is subject to pains in the head, especially if these pains are chiefly on the same side as the perforation.

The tolerance and intolerance of all forms of artificial membrane or support which perforations show is so well recognized that it is hardly deserving of mention; and the excellent hearing and improved local condition of the perforation is perhaps better known than occasional intolerance which some perforations show to its employment; but the following case will perhaps illustrate so well what I might term the behavior of a perforation under treatment that I relate it.

About fifteen years ago, a gentleman had perforations of both membranes after scarlet fever. On the right side all hearing was lost and the perforation healed. It was then found that on the left side (he being extremely deaf with this ear), he could obtain excellent hearing by the use of a cotton wool pad, which he learned to apply to the perforation. This he habitually used during fourteen years spent

in active work which necessitated good hearing. Finding one day that the pad did not give the usual result, he tried various applications without avail. Having noticed that the pad was very dry when it was removed, he proceeded, on his own account, to irritate the ear in several ways in order to produce a discharge. Amongst other plans which he tried, one was by dipping the pad into turpentine. This was soon followed (strangely enough, without any pain) by a discharge, and on again adjusting the pad he heard well for several days. Finally, nothing succeeded; the ear became dry and he was deaf.

When I saw him I found, as he told me was the case, that the perforation had healed. The size of the old perforation was markedly shown and filled up with new tissue. After I had made an incision into the membrana, and after a great deal of trouble, the new tissue disappeared, leaving the old perforation as before, and he could again use the pad with efficiency, and without the tendency to heal being shown. Could anything illustrate better than this little history the behavior of perforations? One might almost say that it is necessary to make use of our experience to anticipate their moods, and even then we shall be often wrong in our surmises. What is needed, however, to treat satisfactorily perforations of the membrana tympani, and many other forms of chronic disease, is the intelligent co-operation of the patient, and whoever is the subject of them must patiently learn to manage himself. When it is remembered that by careful management the hearing may frequently be made and kept good enough for the ordinary purposes of life, and, more important still, the patient may be often kept free from the dangers which have a fatal ending, it is not trouble ill-spent.

Of all the many forms of perforation, some of the most troublesome are perforations of Shrapnell's membrane, and the most difficult to treat are those in which there is evidence of caries. The easiest to treat are perhaps those in which the perforation has arrived at a dry state without any discharge, a state which it may retain for many years if not interfered with ; then a masterly inactivity, as shown by leaving it alone (it may be permitted to say for this perforation, if for none other) is the best of all treatments.—*British Medical Journal*.

NECROLOGY.

ARLT.

PROFESSOR ARLT, of Vienna, recently died in that city. He was one of the most eminent scientific ophthalmologists of his day, and at one time enjoyed the reputation of being the most skillful operator upon the eye in the medical profession. His contributions to ophthalmology, both as a teacher and a writer, have been of great value.

JEWELL.

DR. JAMES STEWART JEWELL died at his residence in Chicago, on April 18th, aged 49 years and 7 months. At the time of his death he was Emeritus Professor of Nervous and Mental Disease in the Chicago Medical College, having filled a chair in the college for many years prior to the failure of his health. He was a man of exceptional learning, and had a wide reputation as a neurologist. He established and conducted for many years the *Journal of Nervous and Mental Disease*, until ill-health compelled him to relinquish his editorial work and interrupted his professional occupation. Later his health improved some, and he resumed the practice of his profession and started the *Neurological Review*. But a few numbers of this journal had been issued when he had to suspend its publication, because his impaired health would not permit his continuance of the work in connection with it.

His death affords another illustration of what is so often seen in the medical profession—men sacrificing their health and their lives by over-work, against which they admonish their patients, but which advice they disregard themselves.

The death of Dr. Jewell is a loss to our city and the medical profession, as well as to the science of neurology.

ITEMS.

THE MONUMENT TO DR. BENJAMIN RUSH.

The Committee of the American Medical Association having charge of the project to erect a monument to "America's most distinguished physician," who was also a great statesman and a signer of the Declaration of Independence, is still at work collecting funds for that purpose. Medical-Director A. L. Gihon, of the United States Navy, is chairman of the committee and will report on the progress thus far made, to the Association at its next annual meeting, to be held in Chicago on June 7th. Dr. S. J. Jones, of Chicago, is the representative of the Committee for the State of Illinois, to whom contributions for the monument-fund may be made, at No. 240 Wabash avenue.

ADDRESSES IN THE GENERAL SESSIONS OF THE INTERNATIONAL MEDICAL CONGRESS.

Many of the medical journals in this and other countries have announced the fact that Professor F. Semmola, of Naples, Italy, is to give a general address on "Bacteriology and its Clinical Therapeutics," to the Congress in general session. General addresses are also promised by Dr. Neudorfer, of Vienna, Austria, on "The Military Medicine of the Present and of the Near Future;" Dr. Esmarch, of Kiel, Germany, on "Bloodless Operations in Surgery;" Dr. Lutaud, of Paris, France, on "The Influence of the Discoveries of American Surgeons on the Development of Gynæcology in Europe,"

and Dr. Austin Flint, of New York, N. Y., on "Fever, Its Cause, Mechanism and Rational Treatment"—all topics of interest to the whole profession.

MEDICAL SOCIETIES TO MEET IN CHICAGO:

The Illinois State Medical Society will meet in this city, in the Methodist Church Block, on May 17th, at 10 A. M.

The Association of American Medical Editors will meet in this city on June 6th.

The American Medical Association will hold its annual meeting in Central Music Hall, corner of State and Randolph streets, in Chicago, beginning on June 7th, at 11 o'clock.

The Executive Committee of the Ninth International Medical Congress will meet in Chicago on June 6th.

MEDICAL NOTES.

CONCERNING THE COST OF STROPHANTHUS.

Since the new heart-stimulant, strophanthus, has been attracting attention, a charge has been made that a London drug-house had control of the sale of the article, and was charging an excessive price for it.

Messrs. Burroughs, Wellcome & Co., in *The Chemist and Druggist* of March 19th, say:

The original cost of the pods and seeds together—and we shall be pleased to show our books and invoices in evidence—was quite 4*l.* 10*s.* per lb., and we were able to get 4½ oz. of seed out of each pound, so that the seed cost 20*s.* per oz. For a pint of the tincture the following represents the cost, as at first prepared, of 1 in 8 strength:—

	£	s.	d.
Strophanthus seed (2½ oz. at 20 <i>s.</i> per oz.)	2	10	0
Ether, for extracting oil (10 oz.)		3	0
Spt. vin. rect. (1 pint)		2	6
Picking, cleaning, and grinding seeds, and other labor		1	6
Total cost of 1 pint	2	17	0
Cost of 1 oz. of tincture would therefore be		2	10
Glass stoppered bottles (two for each ounce)			5
Wrapping, label, filling, cleaning, etc.			2
Total cost of each ounce in ½-oz. bottles		3	5

Our selling price at first was 2*s.* per ½-oz. bottle, subject to our usual discount to the trade. The cost of distribution in single bottles was very considerable. The above figures, of course, do not take into account the cost of advertising, and the personal efforts and other expenses incidental to procuring and supplying a rare drug like this. The trouble and expense which we have sustained have been very great, and

we are dependent upon future sales for any profits on the drug. The difficulties at first experienced in procuring the drug were very great, but we endeavored to distribute strophanthus among the profession and trade as fairly as possible, allowing only one bottle to any one customer; besides this, we distributed a large portion of our stock to hospitals free of charge.

In conclusion, we would say that the strophanthus tincture lately sold in New York was prepared from the original lot of the drug which we received. Less than a month ago we reduced the price of the tincture here from 3s. to 1s. 6d. per oz., for we manufactured it from seeds produced at a reduced price.

STROPHANTHUS-LANOLINE.

The Editor of the *British and Colonial Druggist*, (W. Lascelles Scott, F.C.S.), says in the issue of February 12th, 1887: I have just made some experiments which illustrate, at one and the same time, the penetrating power of lanoline when applied to the skin, and the action of strophanthin upon the heart. With a mixture of two parts lanoline and one of petrogell, 1 per cent. of strophanthin was intimately mixed. Of this ointment, twenty grains was rubbed upon my left arm, the skin having been first freed from the normal oleaginous exudations by the use of a little weak ammonia and a soft cloth. The strophanthin ointment was allowed to remain on until my heart-beats (which very conveniently, have been abnormally high of late) were diminished in number from 103 to 100 per minute, which was the case eighteen minutes and a half from the commencement of the experiment. The pulse continued to recede until a minimum was reached at 94, some fifty-two minutes from the time the ointment was first applied, no further

change occurring for several hours afterward.—*British Medical Journal*.

CASE OF SWALLOWING ARTIFICIAL TEETH.

M.D. writes: With reference to Mr. Ackery's letter, a patient of mine recently swallowed a plate (gold, with two teeth), and I immediately adopted a practice recommended to me some years ago by Sir James Paget in a similar case. I made him eat three good-sized slices of bread and swallow four table-spoonfuls of flour and water made into a fairly thick mass. I then administered an emetic, and the teeth returned entangled in the tenacious vomit. I may add that the first case was equally successful, and that something of this sort is habitually done at police-stations when prisoners passing false coins swallow them.—*British Medical Journal*.

BOOK REVIEWS AND NOTICES.

DISEASES OF THE JOINTS. *By* HOWARD MARSH, F. R. C. S. *Duodecimo, pp. viii., 461. Sixty-four wood engravings and a chromo-lithographic plate. Philadelphia: LEA BROTHERS & Co. Chicago: A. C. McCLURG & Co.*

The author avows an intention to "confine himself mainly to a description of diagnosis and treatment." It is to be regretted that he has done so, for if recent pathology had been given more attention, the work would be valuable as a short text-book to under-graduates.

About two-thirds of the contents are devoted to a description of symptoms, diagnosis and treatment of joint-diseases in general; the other chapters give a review of the diseases as affecting particular joints.

The subject of traumatic dislocation is omitted entirely, and the question of tuberculosis is given only slight attention.

A number of new and valuable suggestions with regard to mechanical appliances are made.

The engravings are clear and many of them new.

References are comparatively few and confined to the works of English authors.

In its present edition the book will be found of use to the student as a short manual of diagnosis, and may give to the practitioner some new hints upon treatment.

A TEXT-BOOK OF MEDICINE FOR STUDENTS AND PRACTITIONERS. *By* DR. ADOLF STRUMPELL, *Formerly Professor and Director of the Medical Policlinic at the University of Leipsic. Translated by permission from the second and third German editions, by* HERMAN F. VICKERY, A.B., M.D., *and* PHILIP COOMBS KNAPP, A.M., M.D., *with editorial notes by* FREDERICK C. SHATTUCK, A. M., M.D., *Visiting Physician to the Massachusetts General Hospital, &c., &c. Pp. xx and 981. New York: D. APPLETON & Co. Chicago: A. C. McCLURG & Co.*

The editor of this work has added such notes, enclosed in brackets, as are necessary to adapt it to the use of American students and practitioners. These additions are of two kinds,—the addition of complete chapters upon diseases which, though common in America, do not occur in Germany, as Dengue for example, and such additions to the author's treatment of diseases, and description of health resorts as are needed to represent American ideas upon these subjects. This work has been very acceptably done. The lack of a copy of the German edition prevents an

expression of opinion in regard to the accuracy of the translation, with which, in other respects, no fault is to be found. It is, however, a mistake that the magnifying power, in diameters, is not given in connection with the cuts of microscopical preparations.

As a treatise on the practice of medicine the book is relatively strongest in its treatment of diseases of the nervous system, but it is everywhere full, concise and clear. In comparison with Eichhorst's "Patologie und Therapie" it is less complete in its discussion of the subjects treated, and very much less complete in its reference to the literature involved. In a general way it may be said that Strümpell's bears about the same relation to Eichhorst's, that Bartholow's does to Flint's "Practice of Medicine." The book has rapidly reached its third edition in Germany, and richly deserves its popularity.

A TEXT-BOOK ON SURGERY, GENERAL, OPERATIVE AND MECHANICAL.
By JOHN A. WYETH, M.D., *Professor of Surgery in the New York Polyclinic, Surgeon to Mount Sinai Hospital, etc., etc.* Pp. viii. and 777. New York: D. APPLETON & Co.

A book can be published, as this one is, without a preface, but such action is so unusual that it is apt to cause unfavorable comment. The fact that this work is sold only by subscription will prejudice some practitioners against it, because its selling price is thus advanced. There are many things in the text which show that the author has not written many books. On the other hand there are many things to be said which are highly complimentary. Among them the following must suffice in this notice. The importance of thorough antiseptic measures is strongly insisted upon, and fairly complete directions are given for their employment. The use of large colored lithographic plates in the chapters on "Ligation of Arteries," "Amputations" and "Hernia," and the use of plates of longitudinal sections of the joints, in the chapter on "Exsections of the Joints," is new. The illustrations throughout the book are good, and the number of them is large. The type is large and the text free from typographical errors. As nearly as one volume can represent it, this one is a very fair exponent of what may be called modern surgery, and will prove an excellent guide to those who use it.

CANCER: A STUDY OF THREE HUNDRED AND NINETY-SEVEN CASES OF CANCER OF THE FEMALE BREAST, WITH CLINICAL OBSERVATIONS.
By WILLARD PARKER, M.D., *New York and London*: G. P. PUTNAM'S SONS.

Every one familiar with the life of Dr. Parker knows the shrewd practical sense which gave him his large and successful practice. This brochure reflects this quality as much in what it avoids as in what it attempts.

The record extends over fifty years of practice. The author has tabulated nearly four hundred cases of "cancer of the female breast," under

various headings among which are "family history," "manifestation of disease before and after menopause," "age at commencement," "age at operation," "number of operations," "lived after operation," "variety of cancer," etc. The table is introduced by a commentary of about sixty pages.

His diagnoses were, probably, purely clinical. The names given to the growths indicate this. Indeed, it is only within the last few years covered by the record that there was any other method of diagnosis in such cases. But even with care and skill the clinical method is liable to error.

Dr. Parker holds the causes of the disease to be, First, "too much nitrogenous food and too little exercise;" Second, "local irritation of some epithelial surface;" Third, "mental affliction;" Fourth, "dysmenorrhœa." He thinks that the tendency to the disease is the result of the habits of the individual; that heredity has little to do with it; and he makes some calculations to show that even the highest proportion of cases given by the advocates of heredity, in which a family taint can be found, is no more than might be expected from accidental coincidence. It is surprising that, although there has been so much discussion as to the heredity of cancerous disease, no one has attempted to trace the history of the descendants of such patients. A case in point occurs to me. The breast of a lady was amputated for "cancer," the disease re-appeared in the axilla and caused her death. This was some eighty or ninety years ago. The history of the growth, which has been many times given to me by eye-witnesses, was exactly that of carcinoma. The patient had many descendants, but no malignant growth has appeared in any of them down to the fifth generation. In a more recent case no malignant growth has appeared down to the third generation; but phthisis developed in the second generation. It does not seem difficult to find many instances among old families, where the history of the descendants of such cases could be traced for generations. If a number of these were carefully compiled and compared with the histories of healthy people, it would go far towards settling the question.

The author does not state how he operated, but unless he differed from his fellows, his earlier methods, at least, were less thorough than those now in use.

He has estimated the duration of the disease in 178 cases; in 100 of these the tumor was removed by the knife. Of these last "there are sixteen cases of long duration * * * which were either living in 1883 or were well when last heard from. Several cases are also living in which the tumors have been removed within the last seven years."

These results are superior to the best European statistics, which are, on the whole, unfavorable. They are better even than those of Gross (*vide* "Tumors of the Mammary Gland"). The question of diagnosis at once arises here. The author insists on the necessity of attention to hygiene in treating the disease. It is not sufficient simply to remove the growth, "we must change the diathesis." * * "Avoid the so-called predisposing causes,—*i. e.*; unnecessary luxury in mode of life; especially abstain from

eating food rich in nitrogen. Urge your patient to take sufficient exercise; point out to her the necessity of cleanliness, and of avoiding all articles of dress that would induce irritation of the skin by pressure. Persuade her to cultivate cheerfulness of disposition, and regulate her various functions, particularly that of menstruation. All this will tend to forestall the development of the disease."

There is nothing new in the book and little that can be turned to particular use, but, it is interesting as a record of the views and experiences of one of the older school of practitioners.

MANUAL OF OPERATIVE SURGERY. *By* JOSEPH D. BRYANT, M.D., *Professor of Anatomy and Clinical Surgery, etc., Bellevue Hospital Medical College, etc., etc., pp. xxvi, and 530, quarto, with 791 illustrations. New York: D. APPLETON & Co. Chicago: A. C. McCLURG & Co. 1887.*

The very profuse illustrations in this book are a great aid to a text which is clear and concise. The intention of the author was to assist the student in the acquisition of established facts in operative surgery, rather than write an exhaustive treatise. Operations peculiar to the female sex, and those of the eye and of the ear, are omitted, as demanding more extensive consideration than the scope of this treatise allows.

The remarks in connection with the choice and employment of anæsthetics are in accordance with the ideas upon that subject now prevalent in the United States.

The author's style is pleasant, and the description of the various operations is very clear. The book is evidently written by a successful teacher, and it can hardly fail to promptly become the leading text-book upon the subject of which it treats. The letter-press is excellent, and deserves commendation.

TRANSACTIONS OF THE STATE MEDICAL SOCIETY OF WISCONSIN, 1886, *pp. 254.*

This volume is made up mostly of papers read at the meeting, some of which are of general interest. This society seems to prefer papers to reports of committees, and the preference seems to have some advantages. The volume contains the usual lists of officers of the society and their addresses, etc.

TRANSACTIONS OF THE TEXAS STATE MEDICAL ASSOCIATION, EIGHTEENTH ANNUAL SESSION, April, 1886.

This report of 691 pages gives a complete account of the proceedings of the State Society. The session was of four days' duration, and the reports of committees do not constitute the bulk of the matter presented. Much of the matter could be improved by condensation. The prize essay of the year, "Reflections on Physical and Mental Culture," is included in the transactions.

WEAR AND TEAR, OR HINTS FOR THE OVERWORKED. *By* S. WEIR MITCHELL, M.D., LL.D., *Member of the National Academy of Sciences.* *Fifth edition*, pp. 76. 1887. Philadelphia: J. B. LIPPINCOTT & CO.

Of all that has been written on "American Nervousness," and the various phases of brain exhaustion as they come under the observation of the neurologist, none have appealed so strongly to the common sense of both the lay and professional public, as this little work on "Wear and Tear."

To the physician much of the work appears trite and commonplace, it being written originally for the pages of a popular magazine, and addressed to non-professional readers. This is an added advantage, as it can often be prescribed for patients of this class with more benefit than the more popular bromide and ergot.

Any extended discussion of the peculiar views in this little work is scarcely called for at this time. At the end of fifteen years a fifth edition is called for, and the work is still found to be useful.

A COMPEND OF ELECTRICITY AND ITS MEDICAL AND SURGICAL USES.

By CHARLES F. MASON, M.D. *With an introduction by* CHARLES H. MAY, M.D. 12 mo. pp., xx and 108. Philadelphia: P. BLAKISTON, SON & CO. Chicago: W. T. KEENER. 1887.

This is a small book; and under the conditions imposed it cannot be entirely satisfactory, because of the great condensation. However, the chapters on "Electro-therapeutics," and "Electricity in Surgery," which are the most practical parts of the work, are very well done. The class to which this volume belongs can scarcely be commended, because, no matter how well they may be prepared, the tendency is to cultivate superficial knowledge. As quiz-compendes they are good, but as manuals for the general practitioner of medicine they are not.

TRANSACTIONS OF THE THIRTY-SIXTH ANNUAL MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY. 1886.

This volume contains 297 pages, and includes the usual lists of officers of the society, together with the addresses delivered and the reports and papers read at the meeting, May 18th and 19th, 1886. The proceedings consist almost wholly of the reports of the various standing and special committees.

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REGULAR COMMUNICATIONS.

HYDROPHOBIA VERA, WITH REPORT OF A CASE.

BY JAMES I. TUCKER, A. M., M.D.

[Read before the Chicago Medical Society, May 16th.]

During my student years, from 1863 to 1867, the prevailing doctrine in this country seemed to be that there was no such disease as hydrophobia vera—*i. e.*: a disease due to the inoculation and subsequent proliferation of germs of a specific animal-poison which resides in the altered saliva of rabid animals, or, to omit the pathological clause and adopt the definition of Reynolds,* a disease due to a specific animal-poison which resides in the saliva of animals affected with it. This doctrine, I believe, is at the present day very generally held in medical circles. Just now, when the experiments of Pasteur are attracting world-wide attention, and giving rise to heated controversy, every ray of light that can be thrown upon this interesting subject is timely and appropriate. That there is a specific disease caused by the saliva of a rabid

*System of Medicine, vol. 1, p. 711.

animal I have no longer a particle of doubt, or the case which I am about to report has not the importance which I attach to it.

A few years ago I was frequently called to attend a Swedish family residing on Waupanseh avenue, now Thirty-seventh street, in this city. I never entered the house without being greeted with brutal courtesy by a snarling cur. The assurance from his master: "The dog is harmless; he barks but never bites. Down, Tiger!" was an incentive to duty, but hardly sufficient to allay my apprehensions. I did not feel so sure that the dog would not bite, and I was glad enough to get out of the house. Finally the family moved away and I heard no more of them for some time afterward.

One morning about 5 o'clock, Dr. Flavius M. Wilder* called at my office and asked me to go and see a patient with him. I got into his buggy and we drove to Langley avenue. On the way the doctor asked me this question: "Is there, in your opinion, such a disease as hydrophobia?" I replied that the question was still unsettled in my mind; that I had never seen a case and had been taught that the disease commonly called hydrophobia, notwithstanding its classical history and high modern authority, was a form of acute mania with the characteristic delusions and hallucinations.

We entered a cottage and saw lying on a bed the Swede whose family I had attended on Thirty-seventh street a year or two before.

He was rational, but his physiognomy denoted extreme anxiety. His eyes were more brilliant than usual; his pulse rapid and jerky; his tongue coated and dry; he expectorated forcibly from time to time a viscid phlegm, and I observed

* Whose permission was obtained before I wrote this paper.

that his neck was badly scratched, and on uncovering his chest that the skin was lacerated in a horrible manner. Dr. Wilder informed me that the patient had done this with his finger nails during the paroxysms. I was curious to know what these paroxysms might be. Accordingly I went to a cupboard, took therefrom a glass and drew some water into it. Into the water I put a few drops of a tincture. We raised our patient up and requested him to take a couple of teaspoonfuls of this medicine. As soon as he attempted to swallow the first teaspoonful, there followed a paroxysm of dysphagia which it would be difficult to describe. It consisted, in brief, of a dysphagic constriction of the pharynx and œsophagus, in the hope of relieving the agony of which he had torn the flesh from his throat and chest. This paroxysm was only one of a series which the attending physician had been observing, and which had led him to diagnosticate the case as one of *rabies canina*. Shortly after the patient had another paroxysm, which caused him such extreme suffering that he sprang from his bed, leaped from the window into the garden, and, clad only in his night-shirt, rolled in the dust. Upon being calmed down he exclaimed: "I have dog-disease! It can be none other! It is incurable! It means death. I want you, doctors, to give me something to terminate my life speedily, that I may not suffer unnecessarily!" Thereafter, I am told he made attempts to destroy his life by opening the radial arteries with a needle. Paroxysm after paroxysm, increasing in frequency and intensity, marked the further progress of the disease, and on the following morning after I saw him he died, either from exhaustion or asphyxia—which I cannot say, for he was then unattended except by his family. The intervals between the paroxysms were lucid and rational. He told his wife what

to do after his death. He told me that he had been bitten six months before by the same "innocent" cur which he had assured me "barked only, but did not bite." That the cur had been immediately thereafter killed. He attached no importance to the bite till two weeks before we saw him, when, upon going to the lake to bathe he experienced a peculiar constriction about the throat and returned. On the following evening he tried the experiment a second time, and again felt the sensation of constriction. Upon returning he became feverish, the constrictions became more and more frequent and severe, and he directed his wife to send for a physician. If we had not been pre-occupied at the time, we would doubtless have paid closer attention to the more remote phenomena of the disease. We would have looked for the peculiar swellings of the tongue known as *lyssi*, for general hyperæsthesia, exaltation of special senses, priapism, etc.; but, as it was, our attention was absorbed by the observation of the gross appearances. Treatment was ineffectual except as a palliative.

To recapitulate: 1. The man was bitten by a dog, which was immediately thereafter killed; not because he was supposed to be mad, but because his master was angry with him. There was, therefore, no suspicion or dread of hydrophobia.

2. The dog was a sullen, snarling cur, which so many foreigners keep about them as a body-guard. It was unwise to kill him, for it was sacrificing the principal witness.

3. The idea of the biting, and the thought of hydrophobia, did not occur to our patient until the symptoms unmistakably manifested themselves.

4. The difficulty of deglutition was caused, first, by the *sight* of water; second, by the *attempt to drink* water; third,

the disease fully developed, the spasms occurred independent of either provocation. There was extreme thirst.

5. The paroxysms, consisting principally of constriction of the pharynx and œsophagus and unexplainable from any other standpoint, psychical or neurological, were almost pathognomonic.

6. Between the paroxysms, there were distinct intermissions, during which the mind was lucid and rational.

7. Rabies confirmed, the phenomena were unmistakable to the physicians and justified the grave suspicions of the patient.

8. No treatment mitigated the symptoms or forefended the result.

9. He died on the morning of the fourth day.

So far as we know at present the prognosis is of the worst description. Death is inevitable. I have not received evidence to convince me of the efficacy of Pasteurization.

It is somewhat remarkable that, if the disease is as common as is popularly supposed—a supposition which the Pasteur inoculations would seem to countenance—how few physicians seem to have seen a single case! In an uninterrupted practice of nearly a quarter of a century I have seen only one case. I have witnessed lyssaform mania, and tetaniform dysphagia and a number of cases of pseudo-hydrophobia, to which the secular press is so fond of giving a sensational coloring, but never before have I seen hydrophobia vera; the symptoms of which are, nevertheless, so unique that no one in the daily habit of practical differential diagnostication can possibly mistake them.

52 Douglas avenue.

EDITORIAL.

PHOTOGRAPHY AND MEDICINE.

The remarkable advances made in many of the arts as a consequence of the adaptation of photography to their needs, has been fully equaled by the extent to which science—and especially medical science—has profited in the same direction. It is not alone in conjunction with the re-production of the field exhibited by the microscope that the value of photography has thus been demonstrated. Every department of medicine and surgery is now daily enriched by valuable contributions made to the great storehouses of anatomy, histology, and pathology.

It is not only the teacher of medicine, but the student and the practitioner who are enjoying the fruit of this adaptation of one art to the requirements of another. What serves the one must, in the long run, greatly serve the other.

To-day all the facial expressions of disease of the internal organs are re-produced by the photograph; all the postures of hysteria; all the external manifestations of insanity. In surgery all the fractures, dislocations, and deformities are similarly reproduced. In one of the largest of the Philadelphia hospitals a camera has been arranged so as to secure accurate representations of persons suffering from shock, as the victims of accident are brought in on litters into the proper wards. In several of the medical schools the entire course in midwifery is illustrated by photographic representations. In diseases of the skin, though confronted with the almost *insur-*

mountable difficulty incident to the representation of colors, something has been done in the way of accurate illustration.

The object of calling attention to these facts, whose importance is rapidly increasing, respects the value to the physician of a practical acquaintance with the art of photography. There are few photographers limiting themselves to the popular demands upon their skill, who can satisfactorily accomplish what is required by the physician. The very best photographs of medical subjects have been taken by medical men. The degree of skill acquired by the latter in this particular field has been what we should expect of the man whose education is of the character to prepare him for such work. One of the busiest of the best-known physicians in this country was first to photograph successfully last year the flash of lightning. Some of the most artistic of the photographs of anatomical preparations have been also taken by physicians—not by those merely who have devoted themselves particularly to such work, but by practical men occupied daily with their professional duties.

The active practitioner, who has but little time for the recording of his interesting cases in writing will find here a field that will reward him for the small time required to cultivate it. No man has so excellent a record of the interesting features of a case of any disease that can be represented by a photograph, as that furnished by the camera. The modern methods of photography have been so simplified and improved, that the best artistic results are now within the reach of all.

CHEST MOVEMENTS OF RESPIRATION IN THE INDIAN FEMALE.

A report of some investigations into the subject of respiratory chest movements of Indian females, published by Dr.

Thos. J. May, in the *Therapeutic Gazette*, May 16, 1887, seem to indicate that the costal respiration in the civilized female is a purely artificial result. The examinations were made by means of a pneumograph, modified by the examiner, constructed on the model of that of Paul Bert. The subjects of the investigation were eighty-two Indian girls in the Lincoln Institution, and in each case both a costal and an abdominal tracing was taken. Thirty-three of the girls were full-blooded Indians, five one-fourth, thirty-five one-half, and two three-fourths white. Seventy-five showed a decided adominal type of breathing, three a costal type, and three in which both were about even. The author states: "In no single instance did the full-blooded Indian girl possess the costal type of breathing."

As the author suggests, the result of these investigations throws suggestive light upon what may perhaps be termed the transcendental physiological speculations of Boerhaave, Hüller, Hutchinson and their many disciples.

The author further raises, and partly discusses, the question: Does this fact of the abdominal breathing among Indians, with its possible relative apex inactivity, account for the very great mortality from pulmonary tuberculosis among those tribes which have most recently come in contact with civilization? and also, what is the influence of such abdominal constriction, as is practised by our civilized female, upon the function of respiration, and upon the fact that a relatively smaller number of females die of pulmonary tuberculosis? The article from which these remarks are very freely quoted is accompanied by tracings which show in a striking manner the facts claimed, and is worthy of consideration.

FOREIGN CORRESPONDENCE.

NOTES FROM A LONDON CLINIC.

LONDON, ENGLAND, April 15th, 1887.

Special Correspondence of The Chicago Medical Journal and Examiner:

I send you herewith some notes of cases treated by Sir Joseph Lister. In a case of nævas in a child four months old, in the operating theater of King's College hospital, he stated that the mother of the child said that at birth the nævus was a mere speck. In the short period since the child's birth it had grown to the size of three inches both in breadth and length. It was situated behind the angle of the jaw on the right side, covering the entire sterno-cleido-mastoid to within half an inch of the scapula. The extremely rapid growth of the tumor called, in the opinion of Sir Joseph, for surgical interference, although, as he stated, he could not feel certain that it could be successfully removed.

Further delay, however, if the nævus continued to increase in size as it had done, he said, would soon prove fatal. The patient being anæsthetized, the parts about the growth were cleanly shaven, and a towel wrung out of carbolized water, on which the instruments were placed, was at hand. The operator then made an incision into the healthy tissues about four lines beyond the margin of the nævus and encircling the entire growth. The incision reached to the fascia. The integument was picked up by a forceps and fingers, and the nævus gradually torn from its attachments, the knife being used to divide the tissues when their resistance proved too great for the fingers. The arteries were ligated as they

were exposed, and then cut by scissors. When the growth had been entirely removed, there was left an opening so large that the anterior triangle and the greater portion of the posterior triangle of the neck were exposed.

All bleeding vessels were "picked up" with artery forceps until hemorrhage ceased, and each vessel ligated with silk-worm gut sutures; not more than two teaspoonsful of blood was lost. The wound was cleaned by sponges and carbolyzed water. Its edges were approximated by sutures of silver wire, introduced in such a manner as to cross each other in the shape of the letter X. This necessarily left an opening in the central part of the wound, and at each of its angles. Further approximation of the parts was secured by passing silk-worm gut sutures through those of the wire. Carbolyzed horsehair was introduced through such openings as remained, in order to secure drainage. Carbolyzed gauze and other carbolyzed materials were placed over the wound and the whole secured by a roller bandage, and an elastic linen band applied around the edges of the dressings.

An idea may be formed of the great extent of the wound after the removal of the *nævus* by stating that nineteen large silver-wire sutures were required to bring the integument into apposition. There were fifteen vessels ligated during the operation, silk-worm gut being used. The operator occupied one hour and fifteen minutes in his work. For some days previous to the operation the tumor had been injected with a solution of carbolic acid. After the growth had been removed, it was examined to see what changes, if any, had been effected in its structure by the carbolic acid. There was found simply a slight change of color in a few places, and a small degree of hardening or condensation of tissue. The *nævus* measured one and a half inches at its center. The operator stated that

there was little danger of hemorrhage in removing a *nævus* if the incisions were made some distance from its margin into the healthy integument, tearing away by the aid of fingers and handle of knife where possible. The child was seen by the writer some hours after the operation, and appeared to have fully rallied from it.

Sir Joseph Lister brought to the notice of the writer two patients who had been operated upon seven days previously for cancer of the breast—the last operation being the second performed on one of the patients. The dressings were then removed for the first time. The wounds had healed by first intention. When sutures were removed they were found free from all trace of pus. The patients had no fever.

The “spray,” as is now well known, has been discarded by Sir Joseph Lister for some time. The writer was present some twelve months or more ago at a clinic of Sir Joseph Lister, when he called attention to the absence of his “spray,” stating that he was then sorry he had ever inflicted the “spray” upon the profession, or words to that effect. He continues to use, and places great reliance upon, his double chloride dressings.

WILLIAM B. MEANY, M.D.

MEDICAL PROGRESS.

HEARING AND THE EXAMINATIONS FOR THE PUBLIC SERVICE.

By W. LAIDLAW PURVES, M.D., Aural Surgeon to Guy's Hospital.

A physical defect which does not seem to have received the attention it deserves in the examination of candidates for the different services is that of a deficiency in the normal hearing power. In the case of the eye, any marked imperfection of vision in both eyes generally forces itself upon the observer by the peculiar gait, or position of the head, or closure of the lids, which the sufferer employs to give him his best possible unaided vision. But a loss of hearing power much below the normal, either in both ears or limited to one ear, may escape detection by a careful observer who does not have recourse to more minute methods of investigation for determining the acuteness of hearing. This arises partly from the fact that ordinary conversation is carried on in a much louder tone than is necessary for the proper hearing thereof. With two normal ears the same conversation could be carried on with half the volume of sound, or even in a whisper; and, as the pica or long primer types are employed by the popular publisher to give comfortable and easy reading to eyes much under the normal in acuteness, so does the barrister or lecturer gauge, as far as he can, an intensity of sound which will give his audience easy hearing without straining. But, in the case of the candidate for admission to any of the services, not merely is it necessary for him to have the vision and hearing which can carry him

through the daily avocations of private life, but he ought to have a standard normal acuteness of both organs on both sides. With only one sound and normally acute eye or ear, a man may pass through life without anyone, perhaps even himself, having discovered that he was partially blind or deaf; but he is essentially a one-barrelled man, and his chances of remaining with good vision and hearing during life are about 50 per centum less than those of a man with two normally acute eyes and ears.

Attention has been lately called to a standard of vision which is necessary for entrance to the Indian service, and the non-possession of which ensures rejection. It is, in the opinion of the writer, not less important that a standard of hearing power should be formed for the same purpose. It is indeed probably of greater importance that a fuller examination be made of the aural organ and its acuteness, than of the visual organ and its function. For, as the loss of function by an abnormal refraction—which is the great cause of defect—can be remedied by the use of lenses, and make the candidate as fit, with those lenses, for the service as a candidate with normal refraction, so may the remedy of altered tension and position of the aural conducting apparatus be applied during the medical examination so as to give a normal acuteness of function. But this full perception may not be present a few hours afterwards, and may be concurrent with tissue changes of a kind which should preclude the acceptance of the candidate. The spectacles are apparent to all, and will, as a rule, remedy the defective refraction at all times; but the changed tension, and the means of effecting it, are discoverable only by an expert, and may be used only on the occasion of the pass-examination.

Other conditions may be present in the conducting appa-

ratus, which, though not causing any appreciable changes in the hearing power at the time of examination, which is virtually a test in direct simple conversation only, are liable to increase, and render the candidate unfit for the service. Such are exostosis, or an old callous perforation of the membrane, which, as long as the former does not materially lessen the calibre of the meatus, or the latter effects only slight changes in position, and interferes only in a small degree with the muscular accommodation, can be determined solely by an objective examination of the parts. The exostosis may never increase to such an extent as to block the canal, but a perforation will certainly, at some time or other, lead either to acute mischief, or to an early loss of acuteness for compound sounds.

Unless the examination be conducted in a manner which will ensure the detection of loss of acuteness of function with or without mechanical aids, of irregularities which may continuously or only temporarily interfere with the faculty, and of conditions which predispose to aural disease, it will fail in its intention.

That a set of rules should be drawn up regarding the defects of hearing which disqualify candidates for admission into the services, is the purpose of this paper, so that when the private medical adviser is consulted by the guardians of a proposed candidate, he may be able to inform them as to his possessing the required acuteness of vision and hearing.

That such advice should be sought by all guardians of such candidates before entering them on a lengthy and expensive training, is the warning of the writer.—*Medical Times*.

DIET AND HYGIENE IN THE TREATMENT OF DIABETES.

PROFESSOR C. W. PURDY advises a rigid enforcement of the following diet and hygiene in cases of confirmed diabetes melli-

tus, in which the matter of diet and hygiene is of more importance than medication.

What to Eat.—Fresh meats of all kinds. Meats, salted, smoked, cured, potted, or preserved in any way except with honey or sugar. Poultry and game of every kind. Eggs in every shape. Bread and biscuits made with prepared gluten bran, or almond flour. Fish of every kind, fresh and preserved, except oysters. Soups of all kinds made without flour or prohibited vegetables. Butter, cheese, cream, curds, oil, dripping and suet, green vegetables, summer cabbage, cauliflower, spinach, broccoli tops, Brussell's sprouts, turnip tops, string beans, watercresses, mustard and cress, sauer kraut, the green parts of lettuce, sorrel, mushrooms, celery tops, turnip tops, cucumbers, pickles, olives, young onion tops. Nuts of various kinds (except chestnuts), almonds, filberts, walnuts, Brazil nuts, cocoanuts, butternuts, pecans, etc. Condiments in moderation.

What to Drink.—Water, soda, seltzer and all mineral waters, Tea and coffee without milk or sugar. Unsweetened spirits, as cognac, whisky, gin, rum, etc., claret, red burgundy, the driest pale sherry, Amontillado or Vino de Pasto.

What to Avoid.—Milk, except very small quantities for cooking purposes, skimmed milk or whey. The liver of all animals. Oysters, the interior of crabs, lobsters, etc. Common flour, biscuits, rusks, toast. Farinaceous vegetables—as potatoes, rice, oatmeal, corn flour, sago, tapioca, arrowroot, macarroni and vermicelli, barley meal, etc. Saccharine vegetables—turnips, carrots, parsnips, peas, French beans, beets, onions, Jerusalem artichokes, asparagus, rhubarb, tomatoes. Blanched vegetables of all kinds—celery, sea kale, endive, radishes; also stalks and white parts of such vegetables as cabbage, lettuce, broccoli, etc. Fruits of all kinds, jams, syrups,

sugars, honey. Certain condiments, as chutnee and sweet pickles, cocoa and chocolate. All malt liquors, with exceptions specified; cider, champagne and all sparkling wines; port, Madeira and all sweet wines; sherry, except the driest; sweetened spirits and liqueurs.

Special Suggestions.—Price's glycerine may be used as a substitute for sugar and syrup. An egg beaten up in tea or coffee forms a substitute for milk. The most palatable form of prepared bread is the gluten roll; this cut into slices, well buttered, may be advantageously eaten with potted meats, anchovy paste, caviar, etc.

An agreeable omelette may be made with four eggs to one tablespoonful of milk.

Melted butter without flour, may be prepared as follows: Rub up the yolk of a hard egg-boiled with olive oil until a rich paste is formed, add two ounces of butter, and heat, gently stirring; add anchovy sauce, capers, fennel, chopped parsley or sorrel, lemon juice, etc., as may be required.

A green salad may be served with meat; it should be mixed with plain oil or vinegar, but the cook should be warned against adding sugar thereto.

As the number of green vegetables permitted is limited, they should be fresh, carefully cooked, and well served. Watercresses should be served at every meal. If the patient will accustom himself to the use of sauer kraut regularly, it will be beneficial.

Meat twice cooked should never be used. Since sweets may not be partaken of, savories should follow meats. Savory omelettes, caviar, anchovies, cheese, fondûs, etc. Sometimes the omelettes may be flavored with grated cocoanut, glycerole of orange peel, essence of vanilla, almonds, etc., or a mixture of sherry (dry), glycerine and lemon juice.

The patient should avoid too great indulgence of his appetite; he should just satisfy his hunger and no more. After a little restraint the craving for extra meat soon ceases.

A list of dishes should be drawn up appropriate for each meal, and these should be as varied as possible.

The patient should carry out scrupulously the diet list above recommended, remembering that a well-regulated diet influences his disease more powerfully for good than does medication. If he grows impatient of the restraint, he should remember that many races live in perfect health upon a far more limited diet, thus: dried flesh or pemmican suffices to keep the Indian or trapper in full vigor for unlimited periods.

Hygiene.—The freshest and purest of air should be breathed; hence the apartments must be perfectly ventilated. Especially must exposure to irrespirable gases be avoided. The patient must not live, work, or sleep in a confined atmosphere. Much of the time should be should be spent out of doors, and large, well ventilated chambers, with open windows, should be used for sleeping apartments.

Special attention should be given to the skin. A warm or hot bath should be taken at least twice a week. The skin should be groomed daily, either after the bath or independent of it on the days on which he does not bathe. A tablespoonful or two of soda should be added to the bath.

Wool must be worn next to the body the year round, and the body at all times kept extra warm, as the temperature is constantly below normal, and chills are very liable to occur from slight causes. For the same reasons, cold and damp winds are to be avoided. Moderate exercise in the open air is very beneficial; it relieves the weary feelings, so common in the muscular system. Exercise should, however, never be carried to fatigue or exhaustion, as these often bring about a

fatal complication (coma), even in the mildest cases. "Catching cold" is another danger to be carefully avoided at all times, as serious complications often arise therefrom.

The patient should drink freely of water—as freely as his inclinations prompt him.

THYMOL IN THE TREATMENT OF ATROPHIC NASAL CATARRH.

Ralph W. Seiss, M. D., in the *Medical News* says:

The great difficulty in curing or even permanently improving atrophic nasal catarrh is but too well known to laryngologists, and any agent which promises somewhat better results than those ordinarily obtained deserves the closest study.

Some eighteen months ago I began a series of experiments with thymol, being led to think that it might be of value in nasal diseases from observing its effects when used as a dressing on some general surgical cases. After prolonged and careful trial, the following four standard solutions have been adopted: No. 1. Thymol gr. ss; Alcoholis f5ss; Glycerine f5ss; Aq. dest. q. s. ad. f3j. M. No. 2. Thymol gr. jss; Alcoholis f5jss; Glycerine f5ss; Aq. dest. q. s. ad. f3j. M. No. 3. Thymol gr. v; Alcoholis, Glycerine aa f3ss; and No. 4 just twice the thymol strength of No. 3. Nos. 1 and 2 have been used in the atomizer, Nos. 3 and 4 are applied by means of a tuft of absorbent cotton on the cotton carrier.

In early cases of atrophic rhinitis where the epithelium is still intact, and the accumulation of discharge is not great—which are characterized by atrophy of the turbinated erec-

tile bodies, with consequent enlargement of the nasal chambers, and by a peculiar shining red hue of the mucous membrane—the No. 1 solution has been used with the most satisfactory results. This form of atrophic catarrh is invariably preceded by the hypertrophic process, and its pathology is briefly described as being a degeneration from pressure and loss of blood supply; the new-formed fibrous tissue of the advanced hypertrophic rhinitis pressing upon the glands and nutrient blood vessels, and so causing atrophy. This disease may exist side by side with the hypertrophic variety: I have never found either large abrasions (shedding of epithelium) or an offensive odor in these cases. Under the thymol treatment used two or three times per week, the nasal secretion becomes more liquid, the mucous membrane regains its normal pink color, and, from the peculiar stimulation of nutrition, the turbinated bodies increase in size, so narrowing the nasal cavities to nearly their normal lumen; and in connection with tonic treatment and careful cleansing of the nasal chambers, the disease has been finally very greatly improved in from three to nine months, in these but slightly advanced cases.

In what I am accustomed to consider *typical* cases of atrophic rhinitis, the following conditions will be found: The patient complains of great, often of almost choking, dryness in the throat, and of accumulation of mucous crusts, particularly in the vault of the pharynx; loss of the sense of smell; and an intolerable sickening odor may or may not be present in greater or less degree. On inspection the mucous membrane is found to be dry and shining, the turbinated bodies nearly or entirely destroyed by atrophy, and erosions (stripping off of epithelium) may occupy nearly the entire

mucous membrane. The nasal chambers are greatly enlarged, so that the pharyngeal wall can be plainly seen by anterior rhinoscopy. The surface of the turbinated bodies is rough and irregular from unequal degeneration, and intense congestion from crust irritation is generally present. By posterior rhinoscopy the pharyngeal glandular tissue is found to be almost totally destroyed, and the vault and nasal fossa are blocked by often intensely offensive dark crusts, which may be either dry, or soft and mucous in character, and often completely occlude the Eustachian tubes and posterior nares.

The lower pharynx presents a most peculiar and typical appearance; the posterior wall is dry, often puckered from lack of moisture, and intensely congested, the posterior half arches appear drawn much nearer together than in the normal condition, and on pressure with a probe the mucous membrane is found to be practically resting on the bodies of the vertebræ. Deeply congested and frequently abraded tissues are found on examination with the laryngoscope, and the trachea and bronchi are frequently also diseased.

This advanced stage of turbinated cirrhosis is almost invariably confined to individuals of a so-called "tubercular tendency," or at least to those whose physique is much below par and average resistance. The profound systemic disturbance resulting from typhoid fever, diphtheria, and the like, is frequently the commencement of this disease. But too often rapid intra-nasal atrophy of this variety is the forerunner of phthisis.

In this form of atrophic rhinitis the No. 2 thymol solution is used with the greatest care; the nares are repeatedly sprayed with it until *clean*, and the spray is then driven with a strong atomizer into the mouth and as high up in the

pharynx as possible, the treatment being carried out not less than three times a week. After the thymol spray I occasionally touch the deeper abrasions with a solution of nitrate of silver, 100 grains to the ounce of distilled water, and more rarely make applications of properly diluted tincture of *galanga* to the mucous membrane, using a small tuft of cotton on a delicate applicator for the purpose. The pharynx is then painted with the No. 3 or 4 thymol solution, the applicator being gently carried up until the vault is reached. No. 3 is used until it ceases to give pain, when the stronger solution is applied—the applications being made at each sitting to the mucous membrane previously cleansed by the spray.

In all cases of atrophic rhinitis I invariably follow the thymol solution with fluid cosmoline used in an atomizer, and have found this preparation of great value in protecting the mucous membrane and preventing the formation of dried crusts. Patients frequently state that this application gives them greater apparent relief than any other used. The usual tonic and cleansing measures are used in addition, as without them but little permanent improvement will be gained; outdoor exercise and systematic “training” are insisted upon, and strychnia and chloride of ammonium are usually given internally, along with alcohol and careful dieting. Dobell’s solution and dilutions of “Listerine” (Lambert) are most frequently ordered as cleansing agents for the patient to use at home, at least twice daily in an atomizer throwing a coarse, strong spray, or by simply snuffing the fluid through the nose; the nasal douche I have entirely abandoned as troublesome and dangerous.

Under the most careful treatment a cure cannot be hoped for, and marked permanent improvement can rarely be obtained in less than seven to nine months; and I have recently

seen cases which, although but little improved by six months' treatment, were greatly benefited at the end of a year by the thymol treatment.

There is a third class of cases of so-called '*rhinitis cirrhotica*, in which I have found use of thymol particularly beneficial; this form occurs in neglected syphilitic or tubercular children, and occasionally in young adults of the same diathesis. The atrophic process is here very rapid and irregular, the turbinated bodies or their remnants having sometimes an almost honeycombed appearance, or may be entirely destroyed. The amount of secretion thrown off is enormous, the nasal cavities literally *leaking* into the pharynx and down the lips, giving a most disgusting appearance. On inspection the nares are found more or less completely occluded with fluid mucus, abrasions may be numerous and deep, and slight hemorrhages are common. The general appearance of atrophic rhinitis accompanied with congestion obtains: caries of bone and cartilage, and involvement of adjacent sinuses are common. According to Forchheimer, of Cincinnati, *ozæna* is invariably either syphilitic or tubercular in character, and he states that the bacillus tuberculosis is present in the nasal secretions in all tubercular cases.

This is perhaps the most difficult to cure of any of the forms of atrophic catarrh, but by the use of thymol we have achieved better results than by any other method. The treatment is carried out as for the second class of cases, with the addition of penciling the turbinated bodies with a solution of tincture of *sanguinaria*, *myrrh*, or *galanga* properly diluted with glycerine; the solution selected being applied after careful cleansing with the thymol solutions. Applications of nitrate of silver in the solid form I think positively

injurious, from its well-known semi-cauterant and constringing effect; and the insufflation of powdered starch, containing a percentage of silver nitrate, is as unscientific from the standpoint of the chemist, as useless to the rhinologist, the metallic salt being converted by the starch into an inactive oxide, and the starch only serving additionally to occlude the nasal chambers. And drugs applied in the form of powder, with the exceptions of iodoform and boric acid, are the reverse of beneficial in this as in all forms of atrophic rhinitis. Specific treatment, tonics, hygiene and thorough antiseptic cleansing are, of course, insisted upon.

In cases of syphilitic origin, I believe that a practical cure may be obtained by prolonged treatment, although atrophied nasal structures will never be replaced; the tubercular cases rarely improve greatly, and usually die of some intercurrent disease before reaching adult life.

The *causes* of rhinitis cirrhotica are as yet uncertain; why one case of advanced hypertrophic catarrh should remain *in statu quo* throughout the life of the individual, and another rapidly degenerate, has not been demonstrated. Ozæna in infants is probably preceded by an intra-uterine catarrh of the hypertrophic variety, since turbinated cirrhosis *ab initio* is scarcely conceivable by the pathologist. A chronic rhinitis is frequently set up at birth in tubercular or syphilitic children, to degenerate speedily into a true ozæna at the end of a few months of life. I have yet to see a case of advanced turbinated atrophy in even a comparatively otherwise healthy individual, and believe that a "tubercular tendency" is the strongest predisposing factor in the disease, and a weak vitality a necessary soil. Why also we should find in one case the intolerable odor of ozæna, and in another apparently structurally identical no odor whatever, is as yet unproved. I cannot accept the statement of Lefferts, that the odor is due

solely to decomposition—from destruction of the serous glands, consequent sticky and tenacious character of the discharges, and damming up and putrefaction of the same within the nasal chambers,—having seen malodorous cases without any considerable amount of pent-up secretion, and observed no odor of consequence in other cases where the nares were completely blocked, the accessory sinuses not being diseased in either case. I think with Mackenzie, of Baltimore, that ozæna from “constitutional causes” is much more likely to give the characteristic stench than that originating from simple inflammatory conditions.

Advanced disease of the *middle ear* is almost invariably found in all cases of turbinated atrophy of long duration; retraction, thickening, and binding down by adhesions of the *membrana tympani* with consequent deafness, tinnitus aurium, and aural pain, being the most frequent form of disease. Frequently the drum is deformed by cicatrices, and the history of recurrent, acute purulent otorrhœa may be obtained; a marked tendency to these subacute inflammatory attacks of the middle ear, and to the establishment of a chronic purulent otorrhœa, are characteristic of the ear lesions of advanced rhinitis cirrhotica. No improvement can be made in the aural conditions until the nasal disease has been so far as may be “cured,” and I have found thymol of especial service in improving the condition of the aural lesions.

Turbinated cirrhosis cannot be considered a curable disease except in the very earliest stages; highly organized structures once destroyed cannot be replaced; and in consequence of the destruction of the serous glands and the great enlargement of the nasal chambers the patient cannot clear his nose by blowing, consequently even a “normal” amount of mucus speedily dries into scales if cleansing measures be discontinued,

with the result of fresh crust-irritation and the rapid lighting up of the atrophic process. The best that can be done in advanced cases is to palliate or improve, and cleansing measures must be continued at intervals throughout the life of the individual to insure no active return of the disease.

After having tried almost every form of treatment, a description of which has been published, I now use thymol almost exclusively, and think that by it better results can be obtained in many cases of atrophic catarrh than by any other form of treatment known to me.

THE POISONOUS ACTION OF POTASSIUM CHLORATE.

The view first advanced by Fourcroy and Alyon, that potassium chlorate, when taken into the system, gives up part of its oxygen, has, since the investigation of Binz* and Marchand,† been generally accepted in explanation of the poisonous action of the salt. B. J. Stokvis‡ contradicts this view, basing his opinion upon investigations of W. C. Kimmyser,§ of H. C. M. v. Gorcom, and of his own.

Kimmyser has investigated the elimination of the chlorate in his own urine, and in that of rabbits and dogs. He found that, of four grammes of sodium chlorate, there was eliminated unchanged, in his own urine, 2.277 grammes, and in the urine of a dog, 3.618 grammes. In the urine of rabbits, to which one and sixteen grammes had been administered, he found 0.896 gramme and 13.53 grammes, respectively. On the days when the chlorate was administered, there was an increased excretion of chlorides (and usually of urea); but this increase, according to the author, is not to be attributed to a

* Archiv. für experim. Pathol., 1879, p. 153.

† Archiv. für pathol. Anat., 1879.

‡ Berichte der deutschen chemischen Gesellschaft, 1886, p. 778, from Archiv. für experimen. Pathol., 21, p. 169.

§ Academ. Præfschrift, Amsterdam, 1884.

reduction of the chlorate, but to a drain on the system, since, on the following days, there was a diminution in the amount of chlorides excreted, the chlorate behaves, in this respect, like sodium nitrate, as Kimmyser determined by experiments on rabbits, whose urine had been rendered free from chlorides by inanition. He, therefore, concludes that a reduction of the chlorate in the system is not proven. Such reduction is also denied by Stokvis, Isamburt, Rabuteau, and Von Mering. The small amount of chlorate unaccounted for in the urine is explained, according to Stokvis, by slow elimination, by passage into the secretions, which takes place even after the ingestion of small doses, by reduction in the urine, and by experimental errors. Kimmyser finds that, when urine containing one per cent. of sodium chlorate is allowed to stand twenty-four hours at 20° C., twenty-four per cent. of the salt is reduced. This reduction does not take place at 0° C., or in acid urine and is less when the urine has been boiled. It depends, according to the author, on beginning putrefaction. Reduction in the blood depends on complicated putrefactive processes, which take place only when the blood loses its vitality. There is formed, in this case, methæmoglobin and hæmatin. An increased temperature favors the process, but a reduction of the whole quantity of chlorate present takes place only rarely, and when the amount of salt is small.

The appearance of the blood observed in fatal cases of potassium-chlorate-poisoning is attributed, by the author, to post-mortem changes. The change does not take place in living blood; for the intravenous injection of sodium chlorate in rabbits was followed by the appearance of albumen and sugar in the urine, but, in very acute cases, no methæmoglobin, which, in these animals, passes very easily from the blood to the urine. In protracted cases, however, an active hyperæmia

of the kidney is set up, and the blood corpuscles which pass into the urine are the source of the methæmoglobin which has been found in the urine in many cases of chlorate-poisoning.

The poisonous action of potassium chlorate is due, according to Jacobi, to paralysis of the heart, and this is attributed, by Leichtenstern, to the action of the metal. It does not differ, according to Stokvis, from the action of potassium chloride or sulphate in corresponding doses. According to these authorities, symptoms of poisoning take place only when the dose is large, or the solution concentrated, or when a considerable quantity has been taken into an empty stomach in the form of small doses, frequently repeated. Sodium chlorate acts, according to Van Gorcom, precisely like sodium chloride, whether administered by the mouth, or by the intravenous injection of concentrated solutions.—*William B. Hills, M. D., in Boston Medical and Surgical Journal.*

IN HOW MANY WAYS DO WE HEAR?

Sound is a sensation caused by rapidly succeeding to-and-fro motions of the air, which touch points in the auricle, are reflected, touch the canal of the ear, and are then concentrated on the drum, or *membrana tympani*. Back and within this membrane is a delicate portion of bone, termed the handle of the malleus or hammer. Fitting into this upper end or head of the hammer is the incus, or anvil, united by a cog-like joint. The third bone is termed the stapes, or stirrup. This last bone, which is the most delicate and also the most important in its relations to every other bone, may be lost, and the drum-membrane gone, yet hearing will remain. It is attached to an oval membrane, which covers a depression in the bone, termed the oval window, being very

movable, the membrane is larger than the foot of the stirrup.

The oval cavity is termed the vestibule, and from it proceed three small openings called the semi-circular canals. Forming a part of this complex yet beautiful apparatus, there is a cavity to which has been given the name of the cochlea, from its resemblance to a snail's shell. The cavity of the inner ear is filled with a liquid, in which are spread out the delicate fibers of the auditory nerve, or nerve of hearing. This nerve is the *portio mollis* of the seventh cranial or head nerves. As its Latin name indicates, it is very soft and impressible, and also liable to injury from many causes. It arises from the medulla oblongata, and the fourth ventricle of the brain enters the internal auditory canal, and is distributed to the labyrinth on a membrane within the bony cochlea. It is lined with epithelium of a velvet-like nature. A portion of this is termed the organ of Corti, and receives the termination of the auditory nerve. This organ of Corti consists of two rows of rod-like bodies, named the rods of Corti, and several rows of ciliated cells.

Sound is conducted to the *membrana tympani*, touching it with a delicate or powerful touch, being transferred to the chain of bones or ossicles. These movable semi-solid bodies vibrate, and carry the sound-waves to the fluid of the internal ear by means of the foot plate of the stapes or stirrup, where they touch the fibers of the auditory nerve, being conveyed to the center of hearing in the brain.

These differences in vibrations make sounds higher or lower in pitch, loud or soft, simple or compound. Infinitely more complex are the vibrations produced by an orchestra with a chorus of human voices and solo singers associated. The mind fails in the effort to grasp the wave-form of the

flood of complex vibrations that pours into the ear at every moment. The highest and lowest tones are heard; the qualities of the notes produced by the strings and wind instruments and the voice are all discernible. The theory offered by Helmholtz in explanation of this wonderful property of the sense of hearing is that the terminations of the nerves in our ears can analyze complex vibrations. It was maintained by Helmholtz and others that in the ear every audible tone throws into sympathetic vibration one or more of the nerve terminations, and that all complex tones are analyzed by them into simple pendular vibrations, which affect different nerve terminations according to their frequency of vibrations.

Although this theory is at the present day doubted by some careful observers, among the number Dr. W. Rutherford, Professor of Physiology of the University of Edinburgh, it has the acceptance of many able physicists.—*The Medical and Surgical Reporter*.

THE GONOCOCCUS OF NEISER.

It has become fairly well established that there is a micro-organism peculiar to the gonorrhœa, and that it can be recognized with certainty in all cases. This micro-organism is the genococcus of Neiser (*Centralblatt für Deutsche Medizinische Wissenschaft*, No. 28, 1879), since thoroughly confirmed by Bokai, Bochkhart, Sternberg, Keyser, Zeissl, and many others less well-known; and the process for its unmistakable detection is that of Dr. Gabriel Roux, of Paris. This process is based upon the fact that, after treatment of a slide prepared according to the steps of Gram's

method, all gonocci are entirely decolorized by the washing in alcohol which follows the treatment with the iodo-iodide of potassium solution. The process in full is as follows: A drop of pus is spread into a thin layer between two glass slides and allowed to dry in the air. A drop of a solution of methyl-blue in aniline water is placed upon it for a moment and washed off with a stream from a wash bottle, and a few drops of iodo-iodide solution is placed upon and allowed to remain for a few minutes. This fixes the color on micro-organisms in general. Gram's solution is then washed off with water, and while it is still wet a cover glass is placed upon it and it is examined with an oil immersion lens. If micro-organisms resembling gonococci are found, the slide is decolorized as thoroughly as possible with absolute alcohol, and reexamined in water, when all gonococci will be found to have disappeared whilst the other forms of micro-organisms still remain. If desired the pus cells may be brought out again by applying a solution of eosin. As a result of a very large number of examinations of pus, simple and gonorrhœal, it may be said that there is no gonorrhœa without gonococci. The practical value of this test is very great. It will occasionally clear up the diagnosis in cases of vaginal secretions; it may declare the origin of a case of ophthalmia neonatorum; it may have medico-legal value in a case of rape, it may favorably determine the nature of a vaginitis in little girls, and it will declare the nature of a urethral discharge in a male.

It is still undecided whether the gonococcus is the materies morbi of gonorrhœa, but the last successful inoculation, by Bumm appears to have been done with all necessary

precautions. In the present state of our knowledge the following conclusions are justifiable.

1. A micrococcus is found in gonorrhœa, and gonorrhœal diseases which is not found elsewhere.

2. It is in all probability the specific microbe of gonorrhœa.

3. Its discovery has been of great practical value, especially as regards diagnosis and prophylaxis.

4. The method proposed by Roux furnishes the most convenient means of proving the identity of the gonococcus in doubtful cases.

5. As regards treatment the discovery cannot as yet be said to have produced any decided advances.—*C. W. Allen, M. D., in Journal of Cutaneous and Genito-Urinary Diseases, March, 1887.*

THE DIFFERENTIAL DIAGNOSIS OF DISEASE OF THE SOUND-CONDUCTING AND OF THE SOUND-PERCEIVING APPARATUS.

Bartsch, of Parchim, in the *Archives of Otology*, volume XV., numbers 2 and 3, recommends an experiment which seems to him more serviceable than Gellé's experiment in the differential diagnosis above mentioned. It is thus condensed by Dr. C. S. Bull, in the *New York Medical Journal*: The experiment is based on the attempted exclusion from the auditory function of the sound-conducting portion, by rarefaction of the air in the external auditory canal. The air being exhausted from the meatus by means of a rubber tube hermetically inserted into it, the drum-head will be rendered to some extent incapable, at least during great negative pressure, of propagating to the labyrinth the vibrations which impinge upon it. Under great pressure thus exerted upon one's self,

one feels how the drum-head is extended outward, and, since with such great tension of the drum-head the malleus is also withdrawn from the incudal joint, the transmission of the sound-waves by the drum-head and the ossicles will be thus greatly hindered. In that case, therefore, only those vibrations will be conducted to the labyrinth which are directly propagated by the bones which do not touch the drum-head—*i. e.*, the cranial vibrations. The question then will be, how intensely and how long are these vibrations perceived? Are they of the same intensity, are they perceived for the same length of time as when the tuning-fork vibrates on the head without the air being exhausted from the meatus? In that event, we must assume that the sound-conducting apparatus performs its function badly. Or else, if they are much fainter, or are heard for a much shorter time than before, the sound-conducting apparatus is healthy. The experiment proves that direct bone-conduction really produces auditory sensations.

SOCIETY REPORTS.

ILLINOIS STATE MEDICAL SOCIETY.

[Reported for *The Chicago Medical Journal and Examiner* by Dr. J. L. Gray.]

The Thirty-seventh annual meeting of the Illinois State Medical Society was called to order at 10:30 A. M., May 17th, Vice-President Dr. Elias Wenger in the chair.

Dr. Wenger, in opening the session, spoke of the death of the President, Dr. W. T. Kirk, of Atlanta.

Dr. E. Ingals, Chairman of the Committee of Arrangements, reported that, in consequence of the unsettled state of railroad matters, the committee had been unable to get any reduction in fare for those attending this meeting of the Society. The committee recommended that the hours for meeting be at 9 A. M. and 2 P. M., and for adjournment at 12 M. and 6 P. M., also that the order of business shall be such as is printed on the programme.

Dr. J. L. White, of Bloomington, said: Mr. President, I crave your indulgence, at this time, for a few minutes.

This is the first time, so far as I know, in the history of this Society that it has been called upon to mourn the death of its President, and it seems to me eminently proper that we pause at this early stage in our proceedings to pay a slight tribute to his memory.

Dr. William Thomas Kirk was born Oct. 27, 1833. At the age of eighteen he commenced the study of medicine and graduated in 1854 from the Louisville University. After graduation he came to Illinois, locating at Farmer City, remaining one year, thence removing to Atlanta, where his death took place March 25th. Dr. Kirk was the victim of fatty degeneration of the heart.

In closing, Dr. White suggested that the society send resolutions of condolence to the family of the deceased President, and as a mark of respect that during the sessions of the society the President's chair be appropriately draped. The suggestion was put by Dr. White in the form of a motion, which was seconded by Dr. W. T. Montgomery, and unanimously adopted by the society.

On motion of Dr. E. Ingals the report of Dr. White was referred to the Committee on Publication to appear in the Transactions, under the Necrological Report.

Dr. S. C. Plummer, of Rock Island, moved and Dr. R. Tilley, of Chicago, seconded the motion that the report of the Committee of Arrangements be adopted. Carried unanimously.

Dr. A. Reeves Jackson delivered the address of welcome on behalf of the profession of Chicago, expressing great pleasure at once again being

able to bid the representatives of the medical profession of Illinois a welcome to the city.

On behalf of the Society, Dr. E. P. Cook, of Mendota responded. He said: When I was informed that it would be expected of me to talk back to the *Doctor* of "*Innocents Abroad*," it occurred to me that, Mark-Twain-like, I had better make my arrangements to speak extemporaneously. The doctor then proceeded to read from manuscript, aptly drawing comparisons between the city and country doctor. He was proud of the fact that Chicago has become a medical educational center second to none in our country. "We of the suburban fraternity, compared to Chicago, can think of some things the doing of which would be mutually beneficial, and some we hope you won't do. Don't permit any more medical college enterprises to spring up. Don't make any further subdivisions of the field of medicine. Don't accept material out of which to make doctors if it is found defective, either as to capacity or preliminary education.

Some queries we would like to propound are: In what proportion of cases of carcinoma of the stomach should we resort to resection?

What surgical interference is justifiable in valvular disease of the heart?

How to locate abscesses of the brain?

How can we destroy bacteria without destroying the unfortunate one infested with them?"

The Secretary read letters of regret from Drs. D. S. Booth, of Sparta, and C. Goodbrake, of Clinton.

Dr. J. H. Hollister moved that the call of the committees be gone through and that the report of the Committee on the Practice of Medicine be received at 2 o'clock, which was lost.

Dr. Tilley moved that the printed order be followed out. Carried.

In the case of committees, all except those on Drugs and Medicines, Diseases of Children and Hydrophobia were announced as being ready to report.

On motion of Dr. E. Ingals, Dr. L. S. Tesson, Surgeon U. S. Army, and Dr. James G. Kiernan, of Chicago, were made members by invitation.

REPORT OF THE COMMITTEE ON PRACTICE OF MEDICINE.

The first scientific paper was that of Dr. D. R. Brower, Chairman of the Committee on the Practice of Medicine. He said since the last meeting of the State Medical Society there has been throughout the whole domain of medicine remarkable activity. Many new and important additions have been made to the treatment of disease, to a few of which he proposed to call attention.

The treatment of phthisis by rectal injection of sulphurous acid gas, communicated to the Academy of Sciences, at Paris, by M. Bergeon, is one of the most important of these discoveries. This measure is based upon the physiological fact established by Claude Bernard that the introduction of toxic substances by the rectum does not offer so much danger as when intro-

duced by the mouth, so long as pulmonary elimination is not interfered with.

The results of applying this method in phthisis are:

First: After a few days, diminution of cough. Second: A profound modification of the quantity and quality of expectoration. Third: The suppression of sweating and gradual disappearance of moist *râles*, and improvement of the general condition.

The next subject to which he called attention is contained in a paper by Dr. John D. Skeer, of Chicago, entitled "A Pathognomonic Symptom in Diagnosis of Tubercular Meningitis," the symptom being a small circle which forms in the iris near to and completely surrounding the pupillary margin. When it begins to appear it is very distinct, and resembles a wreath of thin white clouds, the edge of which extends at first to the free border of the iris; in from 12 to 36 hours the whole margin of the iris will be involved, having become of a whitish or yellowish brown color, and appearing irregular, thickened, and somewhat granular. These changes are commenced in both eyes simultaneously. This cloud-like appearance is in some cases very evanescent; hence the necessity of examining the iris at every visit. These rings are permanent, and grow narrower and larger with the progressive dilatation of the pupils as the disease advances.

Much has been written on the subject of antipyretics, the latest discovery in this direction being antifibrin. In general terms it may be stated that it is about four times the strength of antipyrin. The effect of the drug upon the temperature is noticed in about an hour.

Many valuable contributions will be found in current literature on the relief of insomnia by the new hypnotics, especially urethan and paraldehyde. Experience teaches that urethan should be given in large doses.

On motion of Dr. E. Ingals, the Society adjourned to meet at 2 P.M.

TUESDAY AFTERNOON SESSION.

The Society was called to order at 2.20 P.M., Vice-President Wenger in the chair.

Dr. D. R. Brower gave a short resume of the balance of the report on the Practice of Medicine, after which Dr. P. H. Oyler of Mt. Pulaski, of the same committee, read a paper on "Diphtheria," in which he claimed that true diphtheria is a zymotic disease, which he believes to be undeniable, and that every theory to the contrary must fall to the earth. That it attacks only unhealthy mucous membranes, and through them finds entrance into the circulation, as claimed by some, he believes to be groundless. He said he had not investigated chemically the character of the virus, but from observation and his convictions, he based his treatment upon somewhat different reasoning than that almost universally accepted. No one will deny that cholera is a zymotic disease. He had been taught that in cholera there existed as uper-acidity of the sanguineous fluids, and he believes that in *all* zymotic diseases the same condition exists to a greater or less degree. Taking the view that there is an acid condition in the

development of the disease, the remedial agent sought for should be the one that would meet the greatest number of indications. The treatment he had been using since 1880 is carbonate of ammonia, jaborandi, benzoate of soda and quinia sulphate, steam and poultices around the throat. In his experience this treatment had been much more successful than Tr. Ferri. Chlorid. Carbonate of ammonia had been given in large doses, 30 to 60 grains in solution.

Dr. E. F. Ingals, in opening the discussion upon the gaseous treatment of tuberculosis, said he could not look upon that method of treatment as a "cure all," by any means. In all the cases in which he had used that treatment he had continued the other treatment the same as if the new method had not been used. He had seen the temperature go down within four or five days, the expectoration gradually diminish, and the night-sweats cease. However, in one case the temperature had gone up again, and things looked bad. In one case the laryngeal symptoms were made worse. It is to be remembered that there are dangers to be guarded against in administering the gas. As a rule, for a time at least, the injections should be given by the physician.

He had been much interested in the paper on diphtheria. The treatment suggested by Dr. Oylar seemed to him novel at least. He had found, however, that every one has his peculiar treatment, which is peculiarly successful. He had no doubt that some of those present had treated hundreds of cases of diphtheria, with few deaths. But all know that severe cases of diphtheria are very likely to die. The old-fashioned treatment has seemed to him to be more useful. Certainly nothing should be done to increase the struggling of the patient.

Dr. J. A. Robison said that his experience in making the sulphurous waters had been such that he gives preference to the natural mineral waters. He had been unable to get the chemical reactions with the artificial waters; but he did not mention the mineral water which he generally uses because he did not wish to seem to be advertising it.

Dr. N. S. Davis said he had very few words to say in reference to this method of treatment of consumption, for he had no personal experience with it, but he occasionally gets a little history of some of the cases thus treated. A young man in the suppurative stage of consumption came to his office. He had been using the treatment ten days, and, according to his report, instead of diminishing the suppuration, he insisted that his expectoration had increased, and that he had received no benefit whatever. He had only used it ten days, and Dr. Davis encouraged him to continue its use. He mentioned this simply to show that in diminishing the night-sweats, expectoration, etc., that case had not been in accordance with the usual results.

He said he rose more especially to ask whether, in devising treatment of diphtheria or any other acute febrile disease, we are not too apt to confine our efforts to the finding of some remedy or some combination of remedies that are to be commenced and continued through to the end. One man advocates the tincture of iodine as the best remedy; another car-

bonate of ammonia in big or little doses, whilst another administers calomel from the beginning to the end, and all for the same purpose. Each one has some leading remedy, and something to prop it up with, as he goes along. It had seemed to him, in his experience in this disease, that there is a definite process, general conditions, conditions of secretion, conditions of exudation—products essentially different as they progress. He had attended many cases of diphtheria in former times, and had gone through many epidemics. Epidemics differ in their severity, in their fatality, their amenability to treatment, as clearly as the differences in temperature.

When he came to a case of diphtheria at its beginning, he found, most frequently, a dry skin and a tendency to the checking of secretions generally. After the lapse of four or five days the exudation, not only on the membranes, but the glands of the neck become tumefied and reach their culminating point. In the course of twenty-four hours, if the patient lives, one can distinguish signs of disintegration, gradual softening and breaking down of the tissues, the pulse more rapid, easily compressible, and small ulcers appear in the membrane. In the first stage some remedies may be used to promote needful secretion and hold in check the excessive temperature. If there is any stage at which calomel is wanted it is at that time. But if iron and carbonate of ammonia are commenced at that stage, usually no good results follow.

But just as soon as the culminating stage is reached and the pulse begins to be softer and quicker,—when the countenance is a little less florid—then begins the stage of depression, and then is the time for the use of carbonate of ammonia, iron, or anything that will act in the same direction. The point that he wished to make is, that we must adjust our remedies to the stage of the disease, and not begin with one remedy and carry it through the successive stages with little or no heed as to the indications.

Dr. D. A. K. Steele said in conclusion, that just at present Bergeon's method is the live subject of the day, and, while it is not applicable to the cure of consumption, and does not destroy the bacilli, yet it is of benefit when it comes in contact with any suppurating surface. After the symptoms of sepsis or blood-poisoning have disappeared, to a certain extent it is of advantage as a germicide, that is, in lessening the quantity of the sputum and its offensiveness. But it does not cure the disease. It is the fashion at present, and we have to use it. The apparatuses that are on sale are very frail and quite expensive. One can be made very easily for four or five dollars. In regard to the usefulness of this method of treatment he would say that it is simply on trial and that he is not an enthusiast in its advocacy, and would venture the prediction that it will prove quite evanescent.

Dr. E. Ingals said he was reminded by the discussion of these subjects of the old proverb, "A new broom sweeps clean," to which Dr. N. S. Davis replied, that it may soon get worn and soiled.

Dr. G. L. Corcoran said he had heard a great deal said in regard to this new treatment, the injecting of gases in pulmonary phthisis. In all probability there may be something in it. There must have been something to

start the matter, and the probability is that something may be evolved from it. It might seem improbable to those who had long been engaged in the practice of medicine that the injection of gases would benefit tubercle in the lung. But nevertheless, stranger things have come to pass, and it may be that by prosecuting this matter and using different gases, something of importance may be arrived at. In the treatment of phthisis pulmonalis he thought that he had found nothing so beneficial as the use of iron and arsenic. There being no further discussion, the papers were referred to the Committee on Publication.

REPORT OF THE COMMITTEE ON SURGERY.

Dr. D. A. K. Steele, of Chicago, in making the report of the Committee on Surgery, said he would give a resumé of the principal work done during the year by those who may be regarded as leaders in the science and art of surgery. The elaborate memoir of Dr. N. Senn, of Milwaukee, on "The Surgery of the Pancreas," represents the greatest amount of original research during the year in this country, and supplies the data upon which to base rational methods of treatment for such diseases or injuries of the pancreas as may be amenable to surgical interference.

OSTEO-MYELITIS.—The micro-organisms of acute infecting osteomyelitis have been identified, according to Rosenbech, Becker and Garre, as *Staphylococcus Pyogenus Aureus*, and *Staphylococcus Pyogenus Albus*, and *Streptococcus Pyogenus*. Occasionally the same micro-organisms are found in pyæmic actinomycosis.

The parasite of this disease was first described by Lebert in 1857, and Dr. W. T. Belfield, of Chicago, was the first to identify the disease in cattle known as lumpy-jaw as actinomycosis, from the ever-present millet-seed bodies which, under the microscope, are shown to be fungus mycelia of the first class. The only efficient treatment is thorough opening and scraping of the abscess-cavity, with destruction of the infected tissues.

Malignant pustule retains its interest, as it was the first mycotic disease discovered in man.

TUBERCULOSIS.—During the past few years scrofulous, strumous, malignant diseases, white-swelling and lupus have been definitely classified as tuberculosis of bones, joints or synovial surfaces, and rendered curable by the recognition of their pathology.

WHITE THROMBUS.—It has been shown that foreign substances in the blood-currents are soon covered with a blood-plaque. When stasis from any cause occurs, the third corpuscle or blood-plaque undergoes a vicious transformation, adhering to the white corpuscle and the vessel-wall, causing a white thrombus.

ANTISEPTICS IN SURGERY.—Dr. Knapp, of New York, after a careful series of experiments, believes that suppuration is always caused by bacteria, and has proven that sterilized solutions of chemical irritants introduced into the blood are not followed by suppuration. He concludes

that fermentation is the decomposition of carbo-hydrates into simpler compounds, by the agency of living microbes.

THORACO-PLASTY.—Has been performed, with the result of obliterating old pleural suppurating cavities.

SURGERY OF THE KIDNEYS.—Surgical operations on the kidneys are becoming so frequent as to require no special notice. The operations usually done are:

Nephrorrhaphy or suturing a floating kidney.

2. Nephrotomy or exploratory incision.

3. Nephrectomy or excision of a diseased kidney.

SUPRA-PUBIC CYSTOTOMY.—Has been gaining favor again.

WOUND-HEALING.—In the reporter's private practice, the matter of antiseptics is thoroughly looked after and solutions of bichloride, 1 to 500 freely used in washing the field of operation. The spray has been entirely abandoned by him during the last three years.

Dr. Steele reports several cases operated on by himself, three of shoulder, one of thigh, two of leg amputations and one of excision of the hip. In operations on bone, he follows Schedo's method. In simple fractures, he uses a primary plaster-cast, while in delayed union or ununited fractures he drills the unossified band of callus between the fragments in various directions. If this fails, he cuts down upon the ends and fastens them firmly with bone-pegs.

Dr. B. F. Crummer, of Warren, reported a case of unique wound of the chest, in which the lung was extensively lacerated, and a large hemorrhage occurred into the right thorax. No air could gain access through the wound and no foreign body remained in the chest. He also reported several cases of pleuritic effusion and one of spontaneous recovery from empyema.

By vote of the society, discussion of the report on surgery was made the special order for Wednesday at 2 o'clock, the discussion not to exceed one hour.

REPORT OF THE COMMITTEE ON OBSTETRICS.

Dr. Ellen A. Ingersoll, of Canton, Chairman of the Committee on Obstetrics, gave a general resumé of the literature on the subject, and considered especially

THE SIGNS OF PREGNANCY.—During the first eight weeks of pregnancy the changes in the uterus are practically limited to the body of the organ. As a result of these changes the uterine body loses its pear shape. These changes constitute Hegar's sign, viz.: "The increase in the anterior curvature of the uterus, with increased elasticity of the uterine walls."

MANAGEMENT OF THE SECUNDINES.—The management of abortions, attended with retained secundines, has been much and ably discussed, the preponderance of expression being to favor the immediate removal of the

uterine contents when the ovum had been expelled, and the placenta and membranes remained. In the latter months of pregnancy, the speaker knew of no facts which justify the expectant plan in the management of the third stage of labor.

ANTISEPTICS.—While there are none who do not believe in aseptic principles there are many who do not seem to realize that absolute cleanliness is the great antiseptic precaution. The literature during the year, pro and con, was elaborately discussed.

FORCEPS.—In the review of the literature, mention was made of Breus' and Felsenreich's modification of Tarnier's and Dr. Brooks F. Wells' device for converting an ordinary obstetrical forceps into an axis-traction forceps, and the pelvic-outlet forceps of Dr. A. J. Stone.

PUERPERAL ECLAMPSIA.—The three most important principles to be carried out in the treatment of puerperal eclampsia are sedation or suspension of the reflex functions of the spinal cord; prompt reduction of arterial pressure, and the elimination of effete matter from the system. *Veratrum viridi* probably stands first as a sedative.

Dr. T. G. Thomas, in the strongest manner, advises the induction of premature labor in eclampsia occurring at the sixth, seventh and eighth months of pregnancy.

EXTRA-UTERINE PREGNANCY.—As compared with other abnormalities of pregnancy, abdominal gestation is rare. Ectopic gestation falls naturally into three groups: First, cases seen in the early months; here the placental souffle can be heard with the vaginal stethoscope at the end of the sixth week. Second, cases at mid-term; here if rupture occurs death is almost certain, therefore operation should always be undertaken. Third, cases after the seventh month where the child is living; in these cases cæsarian section is indicated, and operation is a duty. The use of electricity in this disease is at least receiving the attention it merits.

DYSTOCIA AND PREMATURE LABOR.—The past few years have been especially fruitful in measures for preventing and overcoming severe dystocia, one of the causes of which is lateroversion at the beginning of labor.

In conclusion, Dr. Ingersoll gave a resumé of the latest information on cæsarian section, giving in brief the modification of Poro's operation devised by Dr. John Bartlett, of Chicago.

"Does a Retention of the Secundines Necessitate Septic Poisoning?" is the title of the

SUPPLEMENTARY REPORT

of Dr. W. H. Conibear, one of the Committee on Obstetrics. The paper was read by Dr. Ellen A. Ingersoll, in the absence of the author. The writer of the paper is of the opinion that retention of the secundines is not a frequent cause of septic poisoning, and cites several cases from his personal experience in support of his doctrine.

Dr. C. W. Earle, in opening the discussion of the preceding papers, called attention to the fact that Hegar's sign was long since recognized,

but no one until Hegar had considered it with sufficient definiteness to describe it. Another symptom or condition of importance in the diagnosis of pregnancy is the discoloration of the mucous membrane of the vagina. This has been brought forward as a new symptom within the past few months, but it is nevertheless old. Doctor Earle said that the facts noted in the report of the long retention of secundines simply demonstrated that so long as no septic matter came to the woman, these foreign bodies were practically inert. In Italy, or in any of the European countries, if an operator is asked, after one of the severer obstetric operations, "Will that woman recover?" he will answer "Yes, she will recover if I have not infected her." Are we, as American physicians, ready to take the responsibility of thus negligently infecting puerperal women? He said that this was a question which needed the most careful discussion.

Dr. O. B. Will, of Peoria, said he would like to enter his most emphatic protest against injections, either vaginal or intra-uterine, immediately following labor. His habit is to cover all wounds with iodoform and apply the pad advised by Garrigues, of New York. He has had no bad results from such treatment. In cases of retained secundines, he immediately removes the remaining portions, if need be using force; after which the iodoform and pad are applied.

Dr. Sarah Hackett Stevenson said there are at present two methods of dealing with the secundines—The conservative and the radical. She, in her practice, has used the conservative method, if she has the patient under perfect antiseptic control. The statement of Dr. Earle leaves no room for autogenetic poisoning. It is frequently the case that the patient has within her germs which at the puerperal period infect her without any communication from nurse or doctor. The speaker called attention to the fact that Dr. Ingersoll had neglected to mention the axis-traction forceps of Dr. Bartlett, of Chicago.

Dr. E. P. Cook, of Mendota, thought that the subject was one on which most should agree. He was greatly in favor of an early, complete emptying of the uterus.

Dr. E. Ingals, of Chicago, was not in the habit of using injections. His method is the more conservative one. He relies largely upon nature, considering labor a purely normal process, and the less interference the better.

Dr. J. H. Hollister, of Chicago, spoke in favor of the conservative method of Dr. Ingals. He has used it for thirty-nine years, and his results have been unusually good.

Dr. G. W. Nesbitt, of Sycamore, spoke in favor of the early emptying of the uterus, considering it in every way preferable to any other plan.

Dr. E. Wing, of Chicago, called attention to the difference between asepsis and antisepsis. He also was of the same opinion as Dr. Earle, that there is no such thing as autogenetic infection.

The Society then adjourned to Wednesday at 9 A. M.

WEDNESDAY MORNING SESSION.

The Society was called to order at 9:40 o'clock, Vice-President Wenger in the chair.

The first order of business was the call for voluntary papers, and the following were offered, viz:

Dr. H. Gradle, of Chicago: "On Ocular Disturbances from Nasal Disease."

Dr. F. C. Holtz, of Chicago: "On the Use of the Acetate of Lead in Certain Conditions of the Eye."

Dr. C. W. Earle, of Chicago: "On One Factor in the Etiology, and One Means of Cure in Puerperal Fever."

Dr. S. S. Bishop, of Chicago: "On Operation for Mastoid Disease."

Dr. E. L. Holmes, of Chicago, on "Jequirity."

On motion of Dr. A. Wetmore, of Waterloo, the time for hearing these papers was fixed at after the reception of the reports of committees.

Dr. E. Ingals, of Chicago, read invitations to the Society to visit the Presbyterian Hospital, Rush Medical College, and the Woman's Hospital.

On account of the sudden illness of Vice-President Wenger, Vice-President Ensign took the chair.

The next order being the address of the President, Dr. A. Wetmore, of Waterloo, moved that at any time the order of business shall be suspended to hear the President's address whenever he may be prepared to deliver it. Carried.

Dr. E. Ingals, of Chicago, read the report of the Committee of Arrangements on credentials of delegates and list of members present.

The Secretary read a message of greeting from the Southern Kansas Medical Society, and he was directed to send a return message, in the name of the Society, reciprocating the courtesy.

The resignation of Dr. E. W. Jenks, of Detroit, on account of removal from the State, was accepted.

The receiving of the reports of committees was then proceeded with.

The Chairman of the Committee on Gynecology, Dr. O. B. Will of Peoria, made an exhaustive report on the progress in that department of the profession during the year. This progress was largely in the way of reconsideration and revision. Special reference was had to the radical change of view concerning the use of certain instruments. The various views held by eminent men concerning pelvic inflammations were fully considered, much attention being given to pelvic abscess. The author believes that thorough evacuation of the pus is the only curative measure in pelvic abscess.

Upon the subject of the removal of the uterine appendages, more perhaps than any other, there prevails a sentiment of distrust and apprehension. No one doubts that the so-called "Tait's operation," or its modification, has been abused. A correct diagnosis is to-day the prominent factor in solving the problem of abdominal section in any given case. One very important symptom in disease of the tubes is frequently a stercoridium of bloody

grumous material passed from uterus and vagina, which is regarded by the patient as a prolonged menstrual flow. A further aid to diagnosis may be found in the presence at any time of gonorrhœa. Dr. Howard Kelly relies entirely on bimanual examination. Concerning the technique of the operation nothing new has been developed except the use of hot water within the peritoneal cavity to prevent shock.

In concluding the reporter called attention to the method of tamponing the vagina as recommended by Dr. Englemann, of St. Louis, and Dr. Etheridge, of Chicago.

Dr. Catharine Miller, of Lincoln, of the same committee, reported "Cases of Posterior Misplacement of the Uterus in Virgins, with Comments." These misplacements resemble in most particulars those in parous women, but they differ in some important respects. They are rather frequent. The reporter then gave the histories of three cases which had occurred in her practice during the past winter.

Dr. J. G. Kiernan opened the discussion of the report. He said that on the question brought up by Dr. Miller regarding the influence of local conditions in producing constitutional effects, and also as to the effects of certain habits, such as climbing stairs, rope jumping, and the like, much of importance might be said. It seemed to him, however, that Doctor Miller omitted one condition, and that is this, that a woman coming from a defective family is very likely to have uterine displacements. There has recently been considerable reaction against the excessive use of local vaginal applications in the treatment of conditions like dysmenorrhœa, which appear in a great many cases as the result partly of constitutional disorders.

That dysmenorrhœa is a neurotic disorder there can be no reasonable doubt. In the insane hospitals one finds many female patients suffering from local disorders which are the result of constitutional conditions, and proper treatment of the constitutional condition relieves the pelvic disorder. That the pelvic organs have been much over-treated must be evident to anyone.

He was very much pleased to hear Dr. Miller take the position she does concerning the question of examinations.

Dr. G. W. Jones, of Danville, said regarding the points raised by Dr. Will relative to the danger of pelvic abscess opening into the rectum, he wished simply to record the fact of three cases in his practice that were entirely successful. He wished also to emphasize what Dr. Will had said regarding the use of the dry-wool tampon. He had found it one of the most efficient means for support of the pelvic organs in a large number of cases, particularly in those of relaxation of the soft parts.

Regarding retroversion in virgins, his experience and observation led him to believe that there are a large number of virgins born with retroversion of the uterus, and that it gives them no annoyance. He knows of one family, a mother and five daughters, all of them having retroversion, and all healthy in other respects. In all these cases evidence of the fact that retroversion had existed previous to child-bed was very positive. In vir-

gins a satisfactory examination can be made by careful manipulations through the rectum in eight cases out of ten.

Dr. G. W. Nesbitt, of Sycamore, said he would like to say in regard to the use of the tampon that it seems, from the remarks made by the members, that it is the custom to use the absorbent cotton in making the tampon. The absorbent cotton is very objectionable, because when wet it is very hard. The ordinary fine cotton batting does not pack down as absorbent cotton does. He uses a brand called "Queen's Own." He believes that the original idea of Dr. Sims, in advising the tampon saturated with glycerine, was to use the non-absorbent cotton.

Dr. L. G. Thompson, of Lacon, said he had been very much interested in the papers presented, especially by the practical character of the second one. Regarding Doctor Will's paper, he would say that country doctors do not come across cellulitis and pelvic abscess very frequently. He desired to emphasize one thought in the second paper concerning the importance of considering the liability to uterine trouble in virgins. Many physicians think virgins are not liable to that form of derangement, but his observation led him to believe that it is much more common than many are disposed to think. He finds every now and then a case of uterine displacement accompanied by chronic inflammation in a virgin. In regard to using non-absorbent cotton he would say that when it is removed the next day after it is introduced, it is as good as anything else, but if it is to be left for a longer time, one should use something else. He has been in the habit, where the uterus must be supported, of still applying some form of pessary.

Dr. J. S. Whitmire, of Metamora, said that the idea that a young miss can have congenital retroversion is new to him. It is true that nature may have wonderful caprices, and that certain kinds of exercise in young misses produce inflammation of the uterus, there can be no doubt; and there is no question but that other troubles may be produced in the same way.

Dr. D.T.Nelson, of Chicago, said he was heartily in favor of the suggestions contained in the report. He, however, does not believe in congenital retroversion. He thinks it may be possible, but he regards it as being highly improbable. Tight clothing, high heels and other habits of both mother and child have much to do in producing displacements at a very early age.

Dr. Catharine Miller, in replying to the criticisms on her paper, said she was heartily in accord with many of the suggestions made, and had not embodied some of them in her paper, simply on account of the necessity for brevity.

Dr. O. B. Will said the remarks of Dr. Thompson concerning the country practitioners' not frequently coming in contact with cases of pelvic inflammation, were erroneous. In his mind this class of disorders was first seen by the country practitioner.

Dr. Thompson, in reply, said his remarks related to the country physician and not to the general practitioner in highly-populated centers. He thinks country physicians do not meet frequently with pelvic inflammation.

On motion of Dr. D. W. Graham a recess of ten minutes was taken for the selection of the Nominating Committee.

Dr. S. C. Plummer, of Rock Island, extended an invitation to the Society to hold its annual meeting at Rock Island next year; and the request was referred to Committee on Nominations. The Society then adjourned until 2 P. M.

WEDNESDAY AFTERNOON SESSION.

The Society reconvened at 2:20 o'clock, Vice-President Ensign in the chair.

Dr. D. A. K. Steele gave a brief synopsis of his paper read yesterday afternoon. He also exhibited some of the patients to which he referred yesterday. A case of amputation at the shoulder, in which all the joint tissue was removed, was of special interest.

Dr. P. H. Oyler, of Mt. Pulaski, opened the discussion by inquiring why a compound fracture, or a compound comminuted fracture, cannot be hermetically sealed.

Dr. C. T. Parkes, of Chicago, said he had been much interested in the papers presented by Drs. Steele and Crummer. He had used cocaine in some cases with very happy results, and mentioned one case of ununited fracture in which he cut down upon the bone, and no pain was felt by the patient except when the bone was being divided by the saw. In these cases I do not use the wire in ununited fracture. It has been my experience to cut down upon one or two cases in which wiring had been practised, and in these cases there had remained a fistulous opening, and the cause of the opening seemed to be the wire. He thinks there are times when this method, as well as the use of bone pegs, is advisable, but there are a great many cases of compound comminuted fracture that recover without any such treatment.

Dr. Parkes was unable to understand why Dr. Steele used iodoform to cover the wound surface. Some one has recently said that any form of microbe could be propagated in iodoform. One general principle in surgery is, that a wound surface shall be kept free of any foreign body and iodoform is certainly a foreign body. He reported a case in which suppuration was apparently caused by traumatism, the experiments of Dr. Knapp to the contrary notwithstanding. Dr. Parkes agreed heartily with the portions of the paper concerning examinations of the kidney, and also respecting the necessity of doing the median incision for the exploration of the bladder. He reported the case of a boy in which the operation was the only means of clearing up the diagnosis. Upon introducing the finger into the bladder, a villous tumor as large as the end of a finger was found.

Dr. E. Ingals said the suggestion of Dr. Steele regarding the stretching and falling kidney, reminded him of the the case of a young married lady who had never been pregnant, but consulted him for falling kidney. It was so displaced as to come well down into the abdomen, but could be easily returned to place although it could not be successfully fixed. In

the course of time the lady became pregnant and gave birth to a live child at full term; has since had several children, but the kidney became firmly fixed during the first pregnancy and has remained so ever since.

Dr. B. F. Crummer, of Warren, remarked that nothing had been said as to the open treatment of wounds. In his opinion there are certain cases in which the open treatment is best, as, for example, buffer or crushing injuries; better results can be had from such treatment than by the closing up of the wound.

Dr. D. A. K. Steele, of Chicago, in closing the discussion said he agreed with Dr. Parkes that the wiring and pegging of the bone in many cases is unnecessary. He had also seen some difficulties that Dr. Parkes mentions, as in wire wounds filling with granulations. He said it was his habit to sprinkle a light film of iodoform over the wound surface in amputations, especially if dissolved in ether, as this is an excellent hæmostatic.

There being no further discussion, the report was referred to the Committee on Publication.

On motion of Dr. E. Ingals the report of the Treasurer was read, which showed \$1,322.77 in the treasury at the beginning of the present session after satisfying all claims against the Society. The report was adopted and referred to the Committee on Publication.

Dr. Hay moved that the Illinois State Medical Society subscribe \$500 toward paying the expenses of the International Medical Congress. The motion was seconded by Dr. Gray, and followed by remarks by Dr. N. S. Davis explaining for what purposes this subscription was needed. After considerable discussion, Dr. Moses Gunn offered an amendment that \$750 be subscribed. The amendment was seconded and accepted, and the motion as amended was unanimously carried. This appropriation is the largest thus far made by any state medical society.

The report of the Committee on Drugs and Medicines, Dr. J. G. Tapper, Chairman, was read by Dr. Marie J. Mergler. The paper of Dr. Tapper dealt almost entirely with the prevailing evils existing in the relations between physicians and druggists. He said it is evident to every careful observer that the apparent cordiality existing between the two is quite superficial; that the under-current that has silently flowed on for years has done its work slowly but has at length so deepened and widened the channel, that the position in many localities has become alarming. Looking for the cause of the changed relations, he inquired: "Is it fairly presumable that so large a percentage of physicians are deserting our ranks and becoming pharmacists, that the druggists are becoming alarmed? Is it the terrible annual loss of life as sacrificed by doctors acting in the capacity of dispensers? Both of these questions would be answered in the negative. The skeleton in the closet is a fear that a movement appears to be on foot among many of our reputable physicians of compounding their own medicines and dispensing them directly to patients.

He condemned the practice of refilling physicians' prescriptions, and the almost universal practice of pharmacists exposing for sale their own

compounds in the shape of renovators, blood purifiers, dyspepsia cures, etc. According to the belief of the author the prescriptions of a physician are in no way the property of the druggist. Great stress was also laid on the reprehensibility of the substitution of one drug for another, or using different strengths of the same drug. The report closed with suggestions regarding the use of antipyrine in phthisis pulmonalis. The report of Dr. Marie Mergler, "The Progress of Therapeutics in Gynæcology," briefly noticed cocaine and its applications in the treatment of gynæcological cases, and recommends hydrastis canadensis in cases where ergot has usually been given. The author advises iodoform, and more especially an iodoform-gauze dressing, in placing antiseptic douches for operations on the uterus and vagina. According to the experiment of Fellner, hydrastis canadensis is a cardiac poison, producing alteration in blood pressure, and in lower animals produces direct contraction.

Dr. J. H. Hollister, of Chicago, opened the discussion. He considered the points mentioned in the paper of Dr. Tapper of great practical importance. The time has come when there should be some code of ethics or arrangement to govern the relations between physicians and druggists. The matter of re-filling the prescriptions, or substituting drugs, is one for which the medical profession is held responsible; a responsibility which it is not at all anxious to assume. It had occurred to him to carefully prepare a paper, setting forth the relations of the medical profession to manufacturing druggists and dispensing chemists, so fully and clearly that it would be received by both sides as a just exposition of the relations existing.

Dr. A. T. Barnes, of Bloomington, said that to him this had become a very serious question, but that so far as manufacturing chemists were concerned, he could dispose of them. He kept a waste-paper basket in his office to which most of the samples were consigned. Regarding the relations of the druggist and the physician, he would say that in his town it has become the practice for druggists to duplicate a prescription once, twice, or even a hundred times. They have immense books in which they keep a record of prescriptions, and not only re-fill for the patient, but for his family or friends. They have filled a prescription for a certain kind of pills so often that they are called "Barnes' Pills."

Dr. N. S. Davis said there were two aspects to this subject on which his mind had been well settled for a long time. One was, that the physician should adopt the rule, never to prescribe any manufacturers' medicines whatever; and to prescribe no compounds put up by somebody else. The physician should prescribe if he does not use more than one drug, and he should distinctly state what strength of the materials should be used, designating by the United States Pharmacopœia. The second point was, that the dispensing of medicines should be entirely separate from everything else that goes to make up a drug-store. In European countries the dispensers of medicines are generally found in small rooms, the rent of which would not exceed \$5 per month. In this country if a person's sickness does

not last longer than three days his drug bill will exceed the charge made by the doctor. This system is entirely false; there is no reason whatever why the sick should pay for marble floors, highly decorated rooms and all the clap-trap that goes to make up the ordinary drug-store. He said he was not complaining against any particular druggist, but against the system which was false from beginning to end.

REPORT OF THE COMMITTEE ON OPHTHALMOLOGY AND OTOTOLOGY.

By the Constitution of this Society it is made the duty of the Standing Committee on Ophthalmology and Otology to "prepare an annual report on all the important improvements in the management of diseases of the Eye and of the Ear, effected during the year."

"Improvement in the Management of Diseases of the Eye," has both a positive and a negative aspect. On the positive side may be classed the advances made in gaining more intimate knowledge of the histology of the eye—its physiology and pathology, as throwing more light on the ætiology of disease as the key to its therapeutics and surgery, since the therapeutics, as well as the surgery, may be regarded as the natural sequence of a demonstrated pathological condition, as the corollary follows from a demonstrated proposition.

Ophthalmic therapeutics, including its materia medica, must be based upon ascertained facts in anatomy, physiology and pathology, and substantial improvement in the management of diseases can only be based upon correct knowledge of the pathological condition with which we have to deal: Correct knowledge of the therapeutic measures or materials used in the treatment of disease, or correct knowledge of the surgical principles involved in the mechanical procedures employed. Since modern, scientific ophthalmology may properly be dated from 1851, when Professor Helmholtz gave to the world the result of the scientific investigation which he and others had been conducting in their efforts to effect a reliable means of examining the interior of the eye during life, an evolution has been going on in ophthalmic science, much of the time with rapid strides. The yearly contributions to the science have been great in all directions, and the result has been an accumulation of varied character, and in a comparatively short time—an accumulation that might almost be regarded as an embarrassment of riches. As a consequence, the negative aspect is forced upon the attention of the investigator in the field who seeks evidence of the true advancement made from year to year.

The process of elimination must be resorted to, and one finds the mistakes that usually attend rapid development and premature announcement of supposed discoveries, and finds that here, as in other places in the wide field of medicine, many cherished theories, many vaunted remedies, and many novel and lauded operative procedures have failed to stand the practical and reliable test of time, and in the necessary culling process have had to be relegated to the list of the disappointing, the useless, or the harmful. The results of such work, for even the past year, could not be embraced in a report such as this is designed to be, nor will the space and the time

allotted it permit more than a cursory view of some of the changes wrought in that short time.

Passing over the results of recent investigations of the normal and pathological conditions of the eye, which interest chiefly those engaged especially in ophthalmology, and proceeding to consider the more practical results which may be considered as improvements in the management of diseases of the eye, it may be profitable to consider first the management of the diseases of the appendages of the eye, and later of the eye-ball proper.

In the treatment of inflammation of the conjunctiva, the more heroic measures have been replaced by milder remedies in the acute stages, with great advantages in increased comfort to patients, abbreviation of duration of the affection, and less risk to the integrity of the organ. The introduction of boric acid alone as a topical application to the conjunctiva has done much to simplify treatment of conjunctivitis. The use of cocaine to the conjunctiva continues to meet the expectations aroused by its introduction into ophthalmic practice. Its use in the removal of foreign substances lodged in the conjunctiva or in the cornea, affords great comfort to the patient, and is of real service to the physician in effecting their removal. Another year's trial in the use of infusion of jequirity has served to modify the enthusiastic claims made for it when it was introduced a few years ago, by de Wecker, in the treatment of pannus. Whilst it cannot now be claimed that its use is wholly free from danger, yet the risk is less than that from purulent inoculation of the conjunctiva as practiced years ago, and for which jequirity may be regarded as having in a measure been substituted. Its true value, and its proper place in ophthalmic therapeutics, remain yet to be fully established.

The part which the blennorrhagic micro-coccus or gonococcus plays in producing morbid discharges from mucous surfaces, including the conjunctiva, is one of the problems not yet fully solved.

The recently reported experiments by Professor Knapp, of New York, upon rabbits' eyes have been both interesting and suggestive, and seem to indicate that simple traumatism alone is not sufficient to establish a suppurative process. The germ theory of the origin of disease does not exclude purulent secretion of the conjunctiva. Certainly the locally unirritating parasitocides may be used with advantage in established suppurative processes of the conjunctiva, and asepsis should always be sought for in operations upon the eye or its appendages. New operative procedures are still being proposed, from year to year, for the relief of entropium, but, apparently, with more satisfactory results than attended the earlier efforts. Whilst many of them give temporary relief from the annoyance of that affection, recurrence of the trouble, after a longer or shorter time, seems to be the usual result.

The subject of strabismus and its relief has been receiving renewed attention of late. Beyond the mere mechanical part of the operation of tenotomy, the subject is a difficult one in many of the cases. Whether the amblyopia which attends many cases be the cause or the consequence,

whether it be congenital or acquired, it is a complication and an embarrassment seemingly very difficult of remedy, and it must be confessed that there is yet much to be learned regarding this very common affection.

Cataract.—In the operation for soft cataract the needle-operation dissection is still the one usually practised. After partial disintegration and softening of the lens, suction is sometimes practised to hasten the removal of the lens substance.

In hard cataract, extraction of the lens is still usually effected by Von Græfe's modified linear extraction, either as suggested by him or as variously modified by others.

Manipulation to hasten the ripening of the cataract, in order to admit of earlier extraction, has not thus far been attended by results which greatly encourage repeated efforts, and its practice is not free from danger.

Incision of the periphery of the capsule of the lens, as suggested for the escape of the lens and to prevent continuance of the nutrition of the capsule, thus to avoid the occurrence of secondary cataract, has not met with general favor.

Scooping-out of the opaque lens in its capsule, with the attendant risk of loss from vitreous body, has commended itself, either on theoretica grounds or by practical results, sufficiently to have led to its general adoption.

The matter of dressing of the eye, called the after-treatment, in operations on the eye-ball, especially in extraction of hard cataract, has attracted considerable attention during the past year, because of great innovations on the long-established custom of bandaging of eyes thus operated upon, and the confinement of patients to dark rooms, with attendant deprivation of accustomed exercise, and under the depressing influence of darkness. The substitution of strips of adhesive plaster over the eye-lids for the heavy bandages so generally used to secure apposition of the edges of the incised cornea and the splint-like support of the eyelids, has given greater comfort and much satisfaction to patients. Thus far no unfavorable reports have been made to indicate that the change in this mode of dressing has resulted otherwise than satisfactory, but it has, probably, not yet been long enough on trial to have determined either its value or the safety of the operating surgeon in case of failure to secure an average result from an operation for cataract, in view of the seeming proneness of many people to seek an excuse for instituting legal proceedings for alleged malpractice in the treatment of eye troubles.

Glaucoma.—The varying conditions in acute and chronic glaucoma still continue to be an embarrassment in their treatment, in consequence of want of more accurate knowledge of the pathology of that disease in its early stages; it may safely be alleged that no substitute for iridectomy has yet been discovered that is as reliable as that operation in the treatment of the affection. Eserine and other substitutes cannot give the relief required in the condition called, by Knies, "sclerosing inflammation of the angle of the anterior chamber," with the accompanying and consequent atrophy.

Sympathetic Ophthalmia.—This dangerous affection still holds a place, second only in importance to glaucoma, and its ætiology is little if any better understood. Its development seems to be varied in character, and still leaves much doubt as to the avenues of its advance.

The belief formerly held that enucleation of the first affected eye should not be performed after evidence of beginning sympathetic disease in the other eye had manifested itself, is no longer so generally held. A substitute for enucleation of the eye-ball was introduced a few years ago, called opticociliary neurotomy, and consisted in dissecting the cellular tissue of the orbit, so that by the use of a curved instrument the optic nerve could be divided, and the supposed line of advance of the disease be interrupted. The results which followed a fair trial of the substitute have led to its abandonment.

Evisceration of the globe is a later substitute for enucleation of the eye-ball, in these and other cases in which it is desired to avoid danger of sympathetic disturbance of the unaffected eye, and yet to retain enough of the sclerotic coat of the eye, with its muscular attachments, to afford a moveable support for an artificial eye. It seems to possess merit enough to warrant longer trial.

Astigmatism.—Martin (*Annals d'Oculistique*) describes two varieties of astigmatic contractions of the ciliary muscles which tend to neutralize a symmetry of the lens—an astigmatic condition—and makes difficult the adjustment of cylindric glasses; this can only be overcome by strong mydriatics. The same condition complicates latent hypermetropia. In such cases the use of mydriatics is especially indicated, to overcome the spasmodic action of the ciliary muscle and to suspend the accommodative power of the eye, which is a source of embarrassment and uncertainty in adjusting glasses in errors of refraction, and nominally defective accommodative power of the eye.

It is not improbable, however, that, in the absence of such abnormal action of the ciliary muscle, the use of a mydriatic, with its attendant inconvenience and annoyance to patients, is more general than is demanded by the welfare of patients, for repeated testing by trial glasses will enable one to secure the requisite glasses without the use of a mydriatic, and to the great gratification of patients who had previously been subjected to the annoyance of mydriasis for not only days but weeks.

Plastic Operations.—Transplantation of conjunctiva from a rabbit's eye to the human subject in cases of loss of a part of that mucous membrane, as by burns and other injuries, has been so successfully done as to have given this plastic operation a probably permanent place in ophthalmic surgery.

The success which attended this operation led to the substitution of the entire eye-ball of an inferior animal, by transplanting it into a human orbit, and with partial success, as to cosmetic effect, in case of loss of the natural eye-ball. If experience should prove that such transplanting of eyes can be substituted for the wearing of artificial eyes, which are more or less of an annoyance, it would prove a great advance in many respects.

Von Hippel has recently reported a successful case of transplanting corneal tissue in the case of a young woman. By removal of an opaque portion from the center of a cornea, by means of a trephine, down to the membrane of Descemet, and then by means of knife and forceps removing still more of the opaque corneal tissue, an opening was made into which he transplanted a piece of cornea from a rabbit's eye, with aseptic precautions. Rapid union took place; for a few days the transplanted portion was cloudy, but at the end of a week it had become transparent again, and when report of the case was made eight months later the transparency continued with indications that it would be permanent.

Vision through the transplanted portion was reported as being $\frac{2}{10}$ or 1-10.

Dr. A. E. Prince, of Jacksonville, in his report called attention to an instrument for regulating the pressure used in inflation of the middle ear. It is impossible to arrive at an estimate of the damage done by the unregulated force employed in the indiscriminate use of the politzer bag in the treatment of middle ear diseases. To facilitate the method of inflation and diminish its dangers, attention is called to a graduated mercurial column upon which the patient is required to blow. The instrument is essentially a re-curved tube filled with mercury and supplied with rubber tube against which the patient is required to blow while the ears are inflated. While the mercury is deposed the air is driven by the bag through the nostril in the usual way, and, a force indicated by the pressure of the mercury, plus the momentum of the blast, is expended in inflating the middle ears, and any surplus force, in place of working an over-distension of the drums simply overcomes the upward pressure of the palate, and escapes into the pharynx. This instrument Dr. Prince calls a politzometer.

The report of the Committee on Necrology was read by the Chairman, Dr. E. Ingals, of Chicago. It embraced notices of the late President, Dr. W. T. Kirk; of Dr. James S. Jewell; Dr. R. C. Hamill and Dr. McArthur.

The Society adjourned to 9 A. M. Thursday.

THURSDAY MORNING'S SESSION.

The Society was called to order at 9:45 o'clock, Vice-President Ensign in the chair.

The special order being the address of the President, Dr. E. P. Cook, in behalf of the President, gave a short abstract of the address, and it was referred to the Committee on Publication. The address gave a retrospect of the progress of medicine in the State of Illinois during the past fifty years.

The report of the Committee on Publication, Dr. James F. Todd, Chairman, was read by Dr. D. W. Graham.

Three hundred and fifty copies of the Transactions for 1886 were published at a cost of \$348.96. About 60 copies remain at present in the hands of the Secretary, subject to the disposal of the Society. The report was accepted.

The report of the special Committee on Diseases of Children was read by the Chairman, Dr. George Wheeler Jones, of Danville. In preparing

his report the Doctor sent the following questions to two or more physicians in each county:

First—"Has there been much sickness amongst the children in your county or district during the past year?"

Second—"What have been the prevailing diseases, and what has been the general type of such affections?"

Third—"Have you had in your district any outbreaks of any of the contagious or infectious diseases of children?"

Fourth—"Have you used, in the treatment of children's disorders, any new line of management seeming to give more favorable results than other plans previously adopted?"

Fifth—"Do you believe that the State Legislature ought to appropriate annually a sum of money sufficient in amount to defray all expenses connected with investigations covering the subjects embraced in 'Infant Mortality: Its Causes and Reduction,' and 'The Contagious Febrile Diseases: Their Prevention and Cure'?"

About twenty-five per cent. of the reports represented an increase of sickness amongst children. The counties in the southwestern portion of the State, and in the low bottom lands of the Mississippi valley, and those representing the lower altitudes of the interior were most involved in increase of children's disorders. Excepting the contagious and infectious diseases, the general line of disease consisted in bowel complaints last summer and respiratory disorders during the winter, all more or less influenced by malarial toxæmia. An unusual prevalence of rheumatism characterized the sickness of the past winter.

With but one exception every reporter mentioned the presence of one or more of the contagious or infectious diseases. The epidemic influence has thus been general throughout the state, but as a rule in a mild form. Scarlet fever, german measles, diphtheria and pertussis have been especially prevalent. The majority of the cases of german measles have lacked the post auricular glandular enlargement which has been considered almost pathognomonic. It seems that rheumatism has never been so prevalent in both old and young as now. For this disease Dr. Jones places great reliance on the phospho-iron preparations and on salicine.

In the reporter's opinion the "avitreous thermometer," is the best for use with children. The report closed with a short review of the therapy of children's diseases.

In response to the last question on the list, concerning legislative appropriations, the answer of ninety per cent of the correspondents was "yes."

Dr. F. J. Shipp, of Petersburg, contributed to the report a paper on

THE CARE OF CHILDREN.

In the first place great stress was laid on cleanliness, and, equally important in the new-born, no water bath shall be used during the first 24 hours of extra-uterine life. The child is given a thorough oil bath, lightly covered with some suitable material and at the expiration of twenty-four hours a warm bath of very short duration is given in a warm room. The

report dealt also with causes of disease and finally the diseases to which children are liable.

Dr. E. Ingals, of Chicago, in opening the discussion of Dr. Jones' paper, said there was one point in relation to the treatment of pertussis to which no allusion had been made and that was the use of chloral and morphia. It is a much more simple treatment than any other. The speaker now uses practically nothing else. It is especially effective in the later stages. He uses one thirty-second of a grain of morphia and one grain of chloral, frequently repeated if necessary in, a child of three years. Concerning the treatment of the diarrhœas of children he endorsed the antiseptic treatment. He was much in favor of rest and laxatives. He has discarded astringents in such cases. It may be useful in some cases to use opiates to relieve irritation but not as astringents. His plan is to empty the bowel and leave it alone.

Dr. Robert Tilley said there was one point mentioned in Dr. Jones' paper to which reference had before been made, and that was the matter dignified by the name of Skeer's symptoms. He knew but little about the symptoms, but had made an effort to get all the knowledge obtainable. When the report was brought up before the Pathological Society of Chicago, a committee was appointed to investigate this particular symptom, and at that time one case was referred to which was thought to be typical. It was at St Luke's Hospital, but upon inquiry at the hospital it was learned the case was not a typical one and had left the hospital. This, however, was the only case that the committee had an opportunity to investigate. Dr. Tilley thought too much importance had been attached to the little "Skeer's symptom." Of course in a well-established peculiarity like the Argyll-Robertson symptom it is well enough to have a name applied; but it would be in bad taste to hoist this supposed peculiarity on the medical profession without a great deal more evidence than we have at present.

Dr. H. N. Moyer, of Chicago, in replying to Dr. Tilley, said that inasmuch as he wrote the report referred to he might be responsible for the term "Skeer's symptom." At the time when the reference was made the committee did not have any cases of tubercular meningitis under their care, but they took every means to get at a case. There were doubtful cases of tubercular meningitis. In these cases the symptoms was not present. The case that was seen in St. Luke's Hospital was declared by Dr. Skeer to be typical in appearance. In Dr. Skeer's paper a distinction is made between a symptom somewhat resembling the "Skeer symptom" seen in scrofulous children and that found in tubercular meningitis, which undergoes changes in a few hours. Dr. Moyer took great pains to look up the literature. Nothing could be found. He communicated with Dr. Block, and he had never seen the condition or read of it, but concluded from the description and drawings sent him that it must be due to an inflammatory exudate which subsequently became colored by the coloring matters of the blood, thus accounting for the varying color changes. He further thought that these changes were not due to any specific infection but rather to intracranial pressure. The pathology is very doubtful, and until it could be definitely settled it was decided to term the condition Skeer's symptoms.

Dr. C. W. Earle, of Chicago, said that in this city there had been a great number of cases of measles, and an epidemic of german measles; also a few cases of varicella, the severity of which he had never witnessed before. There has been a great tendency shown to occurrence of a second attack. In a large number of cases of german measles post auricular glandular enlargement has been absent. This has made him doubtful as to where to place the cases spoken of.

Dr. A. H. Foster, of Chicago, said his experience had been that of a rather typical epidemic of measles. Following the cases of measles, in three to six weeks there were many cases of german measles without the post auricular enlargement. In several of these cases a longer stage of convalescence was present. This he attributed to the debility arising from the first attack.

Dr. S. W. Nesbitt, of Sycamore, had seen many cases of german measles, sometimes one or two members in the family having the first auricular glandular enlargement, while in others of the same family it was absent. This, he thought, proved that german measles could occur without the enlargement spoken of by Dr. Earle.

Dr. J. H. Hollister, of Chicago, thought the physicians of his city had seen more cases of repeated measles and more german measles than ever before during the history of the city.

Dr. E. L. Herriott, of Jacksonville, said that cases of german measles seen in his region last year were very light, but this year the cases have been very severe and the epidemic quite pronounced.

Dr. A. E. Goodwin, of Rockford, had seen many cases during the year of german measles; very little treatment was necessary. He wished to know whether there was any law requiring children to have a physician's certificate before returning to school after an attack of measles?

Dr. George Wheeler Jones, of Danville, in closing the discussion, remarked that he heartily indorsed the rules laid down by Dr. Shipp concerning the treatment of the new-born, especially the oil bath. He had tried chloral and morphia, but on account of its depressing effect had ceased to use it. He had seen many cases of german measles without the post auricular enlargement, and had been somewhat at a loss where to classify them.

The report was referred to the Committee on Publication.

The special report on physiology, by Dr. A. Wetmore, of Waterloo, was passed over on account of the absence of the author.

THE REPORT OF THE NOMINATING COMMITTEE

was read and adopted, as follows:

President—William O. Ensign, of Rutland.

First Vice-President—Chas. Warrington Earle, of Chicago.

Second Vice-President—Philip H. Oyler, of Mount Pulaski.

Permanent Secretary—David W. Graham, of Chicago.

Assistant Secretary—G. L. Eyster, of Rock Island.

Treasurer—Walter Hay, of Chicago.

Judicial Council—G. A. Wetmore, of Waterloo; S. C. Plummer, of Rock Island; and B. F. Crummer, of Warren.

Committee of Arrangements—C. Truesdale, Thos. Galt, C. Bernhardt, G. G. Craig, S. C. Plummer, C. C. Carter, Geo. E. Barth, P. Gregg, all of Rock Island.

Next Place of Meeting—Rock Island.

STANDING COMMITTEES.

Committee on Practice of Medicine—Frank Billings, of Chicago; G. W. Nesbitt, of Sycamore; A. H. Taggart, of Chicago.

Committee on Surgery—S. W. Caldwell, of Freeport; B. F. Crummer, of Warren; S. K. Crawford, of Chicago.

Committee on Obstetrics—George Wheeler Jones, of Danville; C. C. Hunt, of Dixon; Catharine Slater, of Aurora.

Committee on Gynæcology—A. R. Jackson, of Chicago; T. M. Cullimore, of Jacksonville; Mary E. Bates, of Chicago.

Committee on Drugs and Medicines—D. S. Booth, of Sparta; A. J. C. Saunier, of Libertyville; J. A. Robison, of Chicago.

Ophthalmology and Otology—E. L. Holmes and S. S. Bishop, of Chicago; C. A. Palmer, of Princeton.

Necrology—E. Ingals, of Chicago; J. A. Rauch, of Springfield; O. B. Will, of Peoria.

Committee on Publication—D. W. Graham and Walter Hay, of Chicago; G. L. Eyster, of Rock Island.

SPECIAL COMMITTEES.

Diseases of Children—A. E. Goodwin, of Rockford; Mary H. Thompson, of Chicago; W. West, of Belleville.

Antiseptic Obstetrics—Charles Warrington Earle, of Chicago.

Intubation of Larynx—F. E. Waxham, of Chicago.

The Present Status of Bacteriology in Its Relation to Disease—R. J. Curtis, of Joliet, and F. A. Johnson, of Chicago.

Pelvic Surgery—W. J. Chenowith, of Decatur, and Sarah Hackett Stevenson, of Chicago.

Venereal Diseases—H. N. Moyer, J. N. Danforth, and J. J. M. Angear, all of Chicago.

Hypnotics—D. R. Brower, of Chicago.

Compound Fractures—D. A. K. Steele, of Chicago.

Hernia—D. W. Graham, of Chicago.

Physiology—A. Wetmore, of Waterloo.

Dermatology—H. J. Reynolds, of Chicago.

Neurology—H. Wardner, of Anna, and J. L. Gray, of Chicago.

The Exigencies of Excitements During the First Labor—J. S. Whitmire, of Metamora.

Some Topic on Gynæcology—Marie J. Mergler, of Chicago.

Legislation for the Insane—Walter Hay, of Chicago; Edgar P. Cook, of Mendota; Francis B. Haller, of Vandalia.

Medical and Sanitary Legislation—B. M. Griffith, of Springfield; W. A. Haskell, of Alton; John L. White, of Bloomington; Albert B. Strong, of Chicago.

Influence of Appreciable Meteorological and Topographical Conditions on the Prevalence of Acute Diseases—Nathan S. Davis, of Chicago; John H. Hollister, of Chicago; James F. Todd, of Chicago; Edgar P. Cook, of Mendota; George W. Jones, of Danville.

Biographical—John H. Hollister, of Chicago; Ephraim Ingals, of Chicago; Charles C. Hunt, of Dixon; Francis B. Haller, of Vandalia; A. M. Powell, of Collinsville; Edgar P. Cook, of Mendota; John S. Williams, of Otterville; George W. Jones, of Danville; Thomas F. Worrell, of Bloomington; Robert Boal, of Peoria; Hugh R. Guthrie, of Sparta.

To Promote the Organization of Local Medical Societies throughout the State—Edgar P. Cook, of Mendota.

Dr. E. P. Cook read a supplementary report as follows:

This Committee, composed of one member from each county represented, deem it not beyond their province to call the attention of the society to other matters connected with its best interests. We consider it unwise to close our eyes to the fact that the past meetings have failed to bring out the attendance that it should have and to develop the interest that this Society, representing over 3,000 regular practitioners in this State, should possess. Why this is so, we are not prepared to state, but we feel that the future existence of this Society rests on the action taken on this subject in the near future. What measures should be taken to improve the attendance at and interest in our meetings are now matters of very serious consideration, and this must be had at once. In view of these facts we would present the following:

“Resolved, That a live working committee of three members be appointed to consider this subject, and such committee be authorized to have the results of their deliberations printed in circular form and mailed to each member. This committee shall have the power to suggest such amendments to the Constitution as they shall think best adapted to attain the ends desired. In addition such committee shall prepare and mail to every regular physician in this State such information concerning this Society as shall be necessary to enlist their cooperation in our State Society work.”

T. M. McILVAINE.

E. P. COOK.

A. E. GOODWIN.

On motion of Dr. J. H. Hollister the rules were suspended and Dr. E. P. Cook, of Mendota, presented the report of the Committee to Promote the

ORGANIZATION OF LOCAL MEDICAL SOCIETIES THROUGHOUT THE STATE.

“In our judgment the subject is of such importance as to require the appointment of a committee to whom shall be assigned the duty, under instructions and by authority of the State Society, to open a correspondence with one or more of the leading members of the profession in each county

in the State where no medical societies now exist, and urge upon them the importance of medical organization—and representation—of the profession of all parts of our State in the State Medical Society. We further recommend that this duty be assigned to the same committee suggested by the Nominating Committee.

Dr. J. H. Hollister, of Chicago, said that the history of medicine in Illinois had in the past been creditable. We are now at a point where a large number of young men should be enlisted in the work. Just such a committee is needed.

Dr. D. W. Graham, of Chicago, said that the constitution and by-laws are in an exceedingly crude form and a committee to consider suitable amendments is an absolute necessity.

On motion of Dr. H. N. Moyer the recommendations were adopted and the President authorized to appoint a committee of three.

The President announced as such committee E. P. Cook, of Mendota; Thomas McIlvaine, of Peoria; and A. E. Goodwin, of Rockford.

On motion of Dr. E. C. Cook, the nomination of delegates to the American Medical Association for 1887 was proceeded with, and the following persons elected:

E. B. Loomis, Edward Pynchon, Moses Gunn, E. Ingals, J. L. Gray, J. E. Owens, H. J. Reynolds, A. R. Reynolds, S. K. Crawford, J. M. Hall, Walter Hay, D. W. Graham, H. H. Frothingham, Norman Bridge, J. J. M. Angear, and Denslow Lewis, of Chicago; C. C. Hunt, Dixon; William O. Ensign, Rutland; Thomas McIlvaine, Peoria; E. A. Kilbourne, Elgin; W. S. Caldwell, Freeport; F. L. Nutt, Marengo; K. E. Rich, Winona; G. W. Nesbit, Sycamore; S. E. Plummer, Jr., Rock Island; E. A. Ingersoll, Canton; D. S. Jenks, Plano; B. F. Crummer, Warren; David Prince, Jacksonville; A. Nash, Joliet; E. P. Catlin, Rockford; R. Boal, Peoria; A. K. Van Horn, Jerseyville; W. M. Sweetland, Highland Park; W. M. Barrett, Onarga; E. P. Herriott, Jacksonville; Washington West, Belleville; H. T. Hardy, Kaneville; R. W. Gillett, Carlinville; N. B. Cole, Bloomington; A. J. C. Saunier, Libertyville, and J. A. Freeman, Millington.

On motion of Dr. E. Ingals, of Chicago, the secretary was empowered to fill vacancies.

Dr. C. W. Earle, of Chicago, moved that the President appoint a committee of three to name delegates to the American Medical Association for 1888. Carried; and the President named C. W. Earle and D. W. Graham, of Chicago, and G. W. Jones, of Danville.

On motion of Dr. Norman Bridge, of Chicago, Dr. B. F. Uran, of Kankakee, was made a member by invitation.

Dr. D. W. Graham, of Chicago, asked for an appropriation of \$25 to secure and bind a complete set of transactions of the Society. Carried.

The Society then adjourned to 2 o'clock p. m.

THURSDAY AFTERNOON'S SESSION.

The Society was called to order at 2 o'clock, Vice-President Ensign in the chair.

Dr. H. J. Reynolds read the report of the Special Committee on Dermatology, calling attention to the treatment of lupus vulgaris by electrolysis, after the method of Gartner and Lustgarten. The flat negative pad is placed over the lupous nodule, a sufficient current to produce escharotic effect is used, and the wound treated after the usual manner.

In urticaria a 2 to 10 per cent. solution of menthol is advised. It is equally effective in pruritis, where camphor solutions are not well borne. In acute of the female, the hot vaginal douche is said to have relieved several cases. The action of cocaine upon the skin if introduced by the cataphoric action of the galvanic current is mentioned as being entirely successful in producing local anæsthesia.

On motion of Dr. E. Ingals, the Biographical Committee was continued, with power to add to its numbers.

Dr. S. S. Bishop, of Chicago, read a paper on "Operations for Mastoid Disease," the object of which was to increase confidence in operations on the mastoid process. In all cases of accumulation of pus in the mastoid region, free incisions are made and the cavity rendered thoroughly aseptic. In those cases where necrosis exists, the diseased bone is removed by chisel or curette. The report concluded with the details of treatment in seven cases occurring in the author's practice during the year.

On motion, the report was referred to the Committee on Publication.

Dr. E. F. Ingals, Chairman of the Committee on Diseases of the Throat and Nose, read a paper on epistaxis, with a recital of cases from his own practice. Epistaxis may be simply the result of a local plethora. In old people the most frequent causes are degenerative changes in the blood vessels. The treatment of the disorder is of two kinds, that designed to check the hæmorrhage and that to prevent its recurrence. For the former, one of the most effective measures is firm compression of the nostrils for 10 or 15 minutes. The application of cold is equally efficacious. In more aggravated cases syringing out the nose with cold water and the subsequent insufflation of a powder containing 4 per cent. of cocaine and a suitable proportion of iodoform is highly recommended. The author's method of plugging the nares is as follows: A piece of surgeon's gauze, an inch in width and four feet in length, is thoroughly saturated in a solution of tannia prepared by rubbing with sufficient water to make a thin syrupy mixture. Opening the nostril with a speculum, one end of the slip is folded on itself and over the end of a probe, by which it is carried quickly to the posterior part of the nasal cavity, and then fold after fold is passed slowly in until the cavity is completely filled. This plan has been successful in extreme cases of epistaxis.

Dr. R. Tilley, of Chicago, opened the discussion. He doubted the statement made by the author that hæmorrhage occurring from the nose is usually an effort of nature to relieve plethora. It is rather an evidence of a weak point in the nose, and the physician should try to discover it and apply a remedy. Polypi are not infrequent in the young, and when present it should be as truly removed as when in an adult.

Dr. L. H. Montgomery, of Chicago, gives preference to a solution of the dialyzed tincture of iron used with absorbent cotton. It has in his hands been very effective.

Dr. H. A. Johnson said that in young persons about the period of puberty there is an excess of blood over that needed for the nutrition of the individual. At such times there is a tendency to hæmorrhage from surfaces poorly supported by surrounding tissues. The speaker does not place much reliance on nitrate of silver in such cases. The Poquelin cautery is much more effective.

Dr. N. S. Davis, of Chicago, gave a verbal report of the Committee on the "Influence of Appreciable Meteorological and Topographical Conditions on the Prevalence of Acute Diseases." The Committee was continued.

Dr. Walter Hay, of Chicago, gave a verbal report on "Legislation for the Insane." The report was discussed by Drs. Kiernan, Cook, Hollister, Bridge and Davis; and the following resolution, offered by Dr. Bridge, was adopted:

"*Resolved*, That this Society heartily indorses the provisions of the bill now before our legislature providing for the commitment of the insane in certain cases without trial by jury; and asks the legislature to enact these provisions at least."

On motion of Dr. G. W. Jones, the rules were suspended, and Dr. E. P. Cook presented the following resolution:

"*Resolved*, That the thanks of this Society are hereby extended to the Chairman of the Committee of Arrangements and all who have in any way contributed to making this thirty-seventh annual meeting a success."

Dr. G. W. Jones, of Danville, gave notice that at the next annual meeting a resolution would be introduced changing the wording of Article VII of the Constitution by substituting the words "two dollars" for the words "three dollars."

Dr. C. W. Earle, of Chicago, gave notice that an amendment to Article V would be introduced at the next annual meeting, adding the words "a Committee on Diseases of Children, and a Committee on Neurology" to paragraph 1 of said Article V.

On motion of Dr. S. K. Crawford, Dr. H. Z. Gill, of El Dorado, Kan., was made an honorary member of the Society.

The Society adjourned to meet at Rock Island the third Tuesday in May, 1888.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, April 18th, 1887.—THE PRESIDENT, W. T. BELFIELD, M. D., in the chair.

DR. FRANCIS J. CRANE read the following paper entitled

BERGEON'S METHOD OF TREATING PHTHISIS BY GASEOUS ENEMATA.

In January last the *New York Medical Record* contained an article headed "A New Treatment of Phthisis," which gives a brief outline of Dr. Bergeon's method of administering carbon dioxide mixed with sulphur-

etted hydrogen gas, and referred to an article published in the *British Medical Journal* of December 18, 1886. This described in full the apparatus, and mode of using it, and stated they had been procuring beneficial results by the method, and that Professor Cornil, of Paris, had also become an enthusiastic supporter of it. This led me to write to Dr. Bergeon, and in the course of our correspondence he presented me with an apparatus as well as with the treatise of Dr. Morel read before the French Academy last June, and also one by Professor Cornil. These are so exhaustive that I have embodied in this paper only the essence of both, as follows: "New Treatment of the Diseases of Respiratory Organs and Septicæmia by the Means of Gaseous Enemata according to M. Bergeon's Method," by Dr. V. Morel. It would seem from the statements of physicians who have tried either to prevent the development, or the proliferation of the bacillus, or to destroy it, that it is the one thing which we have to overcome in the treatment of phthisis. In reasoning by analogy with other contagious diseases—as, for instance, cholera and hydrophobia—it might be urged that the bacillus is not the immediate cause of the morbid phenomena of tuberculous affections. It is known that, aside from miliary tubercles, which invade the lungs and are the cause of the patients' symptoms, the gravest phenomena of phthisis are due to the septicæmia, which poisons the patient, and is caused by the suppuration of the tubercles, which, brought in contact with the air, undergoes putrefaction, and is absorbed into the system. The bacillus work, then, by producing lesions of texture, which become fatal to the organism by rapidly destroying, or by undergoing softening and absorption, produce septicæmia. To use Darembourg's expression: "The bacillus is nothing, but the septicæmia is everything."

In acknowledging that it is not necessary to ascribe to the microbe all of the morbid phenomena of phthisis, it is not less true that its presence is to the organism an incessant and real danger, and that consequently, in endeavoring to discover a remedy for the lesions which it has produced, it is necessary to destroy it, or at least to neutralize its action. For this purpose such agents as sulphuret of hydrogen, bisulphide of carbon and other antiseptics mixed with pure carbonic acid, are employed.

Principles of Bergeon's Method.—The first mode of treatment thought of consisted in applying by inhalation some substances having parasitocidal properties. It is known that antiseptic substances are poisonous when introduced into the arterial system, either directly or by inhalation. Claude Bernard has shown that poisonous gases introduced into the arterial system through the lungs produce toxic effects almost instantaneously. Besides, the antiseptic substances have an irritating action, and this action, operating on diseased lungs, will only increase the existing lesions, while their unpleasant odor arouses a refusal in the patients to their use; this is probably the reason why so little success has been obtained by inhalation in the treatment of phthisis, and is conclusive proof that the introduction of antiseptics by the stomach is preferable, for Claude Bernard has shown that when a poisonous or mineral substance is introduced into an organ

distant from the arterial system—into the digestive tract, for instance—it cannot enter the arterial system, because it is expelled before reaching it. It must pass through the portal system, the hepatic veins and the pulmonary texture, there to be exhaled, or it can be expelled in the liver with the bile.

It is well established by experiments that the introduction of poisonous substances into the digestive tube may be done without danger by taking certain precautions, of which the most important consist in not injecting too large quantities at once, and not injecting more before the first has been completely eliminated. What avenue ought to be chosen? The stomach or the rectum? In both cases the medicament will have to pass through the portal vein, the liver, the hepatic vein, the right heart and pulmonary arteries, but we think the rectal way is preferable, for the patient cannot take a dislike to the antiseptic substances on account of their disagreeable odors.

“Gaseous Enemata in the Therapeutics of Respiratory Organs, Pulmonary Phthisis, Asthma, Whooping-cough, Bronchitis, Bronchiectasis, Bronchorrhœa, Pulmonary Catarrh,” by M. Cornil. The principle of the action of gaseous infections and of their rapid elimination by the lung has been given by Bernard. He showed that when sulphuretted hydrogen is injected into the rectum of an animal, the gas is expelled by the lungs; he proved that we can so inject it in almost unlimited quantities without causing harm; whereas its introduction by inhalation rapidly occasions grave accidents and the animal’s death. However, to introduce sulphureous hydrogen, or gas or any other vapor, into the economy per rectum, for the purpose of destroying the micro-organisms which exist in a number of diseases, it was necessary to find a gaseous vehicle inoffensive to the economy and easily tolerated by the bowel.

Carbonic acid gas admirably answers the purpose; it is very easily borne by the colon, rapidly absorbed, and afterward expelled by the lung, with the medicinal gas which it holds. The gas itself, in all probability, plays a very important part in this new treatment of pulmonary diseases.

Dr. Bergeon, who inaugurated this method, published a few months ago the first results obtained in the treatment of pulmonary phthisis by this method. Physicians of Lyons, Paris, Geneva and Marseilles who have treated phthisis by the method have generally obtained a very rapid disappearance of the phenomena of pulmonary suppuration, and a progress towards a state of health, with all the signs of cure.

Concerning the patients I have treated by this method, I can now assert that the results I predicted three months ago have been achieved. The patients that I considered cured have no more expectoration, and give on auscultation stethoscopic signs which denote the presence of quiescent cavities or cicatrized lesions. Some of these patients have been obliged to return to a life of labor; nevertheless their respiratory organs have stood the test, and the amelioration obtained has been permanent.

While many patients whom the expectoration once so exhausted now have only 3 or 4 grams of sputum a day, at the beginning of the treatment

it was from 250 to 300 grams. We have found bacilli, it is true, in the sputa of these patients; yet it remains to be discovered whether these bacilli which exist after the return to health have kept their functional activity or not. Whatever may be the mode of action of carbonic acid introduced by intestinal absorption in, the venous blood and afterward expelled by the lung, it can be said from the observation of patients that this gas, filled with proper medicinal substances, greatly modifies the respiratory functions, and makes the hemathosis more complete and easy. It gives a sensation of well-being, followed by an increase of strength and weight, a diminution of fever and night sweats.

The following precautions must be observed in giving this treatment:

1. The CO_2 ought to be as pure as possible, so as not to inflame the bowel. That obtained by the reaction of dilute sulphuric acid on the bicarbonate of soda has always been perfectly absorbed by the bowel without producing any toxic effect.

2. The gas should be collected in a receiver from which the air has been expelled.

3. Make the injections just before a meal, or at least three hours after, and never when the patient is weary. It is necessary to be very cautious in experimenting with other medicinal substances, for if, although the sulphuretted hydrogen is inoffensive, other agents, as turpentine, chloral, ammoniac, iodine, bromæ, ether, etc., may not be, and might be the cause of an inflammation of the intestinal mucous membrane.

It is not necessary that the dose be large; by injecting twice a day 4 or 5 litres of carbonic acid gas passed through 500 grams of sulphur water, we rapidly notice the disappearance of all the phenomena of pulmonary supuration, either in its acute or chronic state.

Bergeon's method has been successfully experimented with by Dr. Chantemesse, in his service at St. Antoine Hospital, during the months of August, September and October. The following are his results: "Two patients brought to the hospital suffering with violent attacks of asthma were, half an hour after the injection with sulfo-carbon vapor, entirely relieved of the dyspnœa. The treatment having been continued for a few days, the breathing was relieved, and the attacks were not repeated during the time they remained." Nine patients giving general and local signs of pulmonary tuberculosis, with tubercular bacilli in the sputa, have obtained very great amelioration from this treatment. The increase of weight has been rapid, one pound, and sometimes as high as 35 oz. a week; cough and expectoration have largely ceased. We also find the bacilli in the sputum however. These patients have been under treatment for one month and a half. One of them has increased nine pounds in weight.

I have used this treatment with four cases; two of phthisis, one of intussusception of the bowel and one of spasmodic croup. With the croup and intussusception it operated like a charm, overcoming both almost instantly. In the case of croup, I used the bisulphide of carbon, and in half an hour the little patient was sleeping, apparently as well as ever.

Case 1.—Mr. W., aged 26. Two sisters and a brother died of phthisis; he had been treating with various physicians and changing climate (having been to Colorado twice) for over three years. The right lung was nearly useless, as it contained a cavity corresponding to nearly if not quite half of its original capacity. Nowhere on that side could vesicular respiration be heard, while the left apex likewise yielded unmistakable signs of disease. There were œdema of the feet, incessant cough, broken sleep, watery stools and ravenous appetite, although he could not retain anything on the stomach; temperature 102° F. After the first injection of bisulphide of carbon, given in the evening, he slept well for three hours and was bothered very little with cough, but on rising in the morning, to use his own words, came nearly strangling for want of a cough, which he finally got, and expectorated a pint with the one paroxysm. I then used the sulphuretted hydrogen water and he improved very fast; in one week he had a normal temperature; night sweats almost entirely stopped, expectoration was much less, and he was able to wear his shoes, which he had not been able to do for over six weeks. Unfortunately, however, at the latter part of the second week he ventured out in one of our rainiest March days, took cold, and his death, two days later, cut short the record of what might have proven almost a miracle.

Case 3.—Mrs. W., aged 34, widow, having lost her mother and oldest sister from phthisis, applied to me for some heart trouble. Complained of a dizzy sensation on rising from a recumbent position; feet swollen some, hectic flush, considerable dyspnoea, slight cough with no expectoration. *Diagnosis:* Incipient phthisis with heart complication? She had noticed, also, for about a week some night sweats, which did not last, however, after the second administration of gas. She improved so rapidly that she only made seven visits in all, and pronounced herself cured. There is, however, no doubt but she will have a return of symptoms upon the slightest provocation.

This comprises all my experience, but these are facts, and facts are stubborn things to deal with. In regard to the best mineral water, I wish to say that, after trying the Lafayette, Ind., the Blue Lick, Ky., and the Ypsilanti, Michigan, mineral waters, I am satisfied that the Ypsilanti mineral water is just what we want. It contains 20 cubic inches of gas to the gallon, and is so strongly impregnated with it that I use it over the second time by having solid rubber corks to replace the perforated ones when I have got through using the apparatus. Mr. St. Clair, President of the Company has kindly furnished a case of twelve quarts of the water, which I have forwarded to Dr. Bergeon, in hopes that it will compare favorably with the Eaux Bonnes water which he is using. I have also had an apparatus made by E. H. Sargent which I think takes the place of Dr. Morel's very well, differing from it only in point of cheapness, costing but a little more than one-half the former.

The true place of this mode of treatment cannot be established until the experience of careful observers has been given us, years hence. I wish, therefore, to urge the profession to investigate the matter fairly, since time,

I am confident, will prove that Dr. Bergeon has been one of the greatest benefactors of the age.

DISCUSSION.

Following the reading of his paper, DR. CRANE laid before the society a letter from Dr. Bruen, of the Philadelphia Hospital, in which the writer states that the experience thus far obtained in that hospital in the use of Bergeon's treatment of consumption by rectal injections of carbonic acid gas impregnated with sulphuretted hydrogen, has been highly encouraging.

The clinical results indicate that the element of suppuration in pulmonary phthisis has been usually very positively influenced. The night sweats have been controlled in twenty-five cases, without an exception. The temperature has been modified, even in the most advanced cases, and in some instances in which the disease has been extensive it has been brought to a normal point. A peculiarity of the temperature charts seems to be an introduction of a subnormal temperature in the forenoon. The expectoration has been lessened in all instances, and in some has disappeared. A marked impression has been made for the better on the nervous symptoms which attend the disease, and a more cheerful and sanguine spirit has followed the therapeusis. One case of acute broncho-pneumonia, treated on this plan, has recovered, and will be discharged from the hospital. Another case of phthisis with pneumo-thorax, under treatment for five weeks, is so much improved that the patient insists on her discharge. The rales have disappeared from this patient's chest (the pneumo-thorax was local and confined to the lower zone of the right thorax), the opening into the lung has apparently closed, and retraction of the chest wall is going on. This patient had been ill for a year previous to admission to the Philadelphia Hospital; the pneumo-thorax was noted on admission. She has gained over nine pounds of flesh, expectoration has ceased, sweats abolished. The cough, however, continues as a modified symptom, since she is as yet merely a case of phthisis in stage of arrest, the bacilli of tuberculosis being still recognizable in the sputa.

Two cases of commencing phthisis with moist rales, dullness on percussion, harsh breathing, deficient expansion over right upper lobe, and tubercle bacilli in sputa, have recently been placed under the treatment. In these cases in one week the rales have disappeared and the patients express themselves as benefitted.

A solution of 5 grs. sulphide of sodium and 5 grs. chloride of sodium in 22 ounces of water has proven the most satisfactory substance to produce the sulphuretted hydrogen. A solution more strongly impregnated with sulphuretted hydrogen has not only not been advantageous, but seemed injurious, apparently inducing pallor, loss of appetite, and in some cases, irritation of the bowels. The gas should be introduced slowly; not less than half an hour seems requisite for each seance. From three to five quarts can be introduced in most cases, a gain in the tolerance of the necessary distension of the bowel being rapidly acquired. The absorption of the gas from the bowel is very rapid, and in half an hour the distension

will entirely subside. It is sometimes introduced more rapidly, but the gain is in proportion to the time consumed in giving the gas. The carbonic acid can be pumped through the solution containing the sulphuretted hydrogen by the aid of a ball with valve attachment. Dr. Bruen has not obtained as yet satisfactory results from the examination of urine or breath, nor of the effect of the treatment upon the bacillus of tuberculosis.

DR. R. H. BABCOCK said that his experience with this remedy is rather limited, but it seems there are several questions which should be considered in speaking on this subject: First, is the treatment safe? Second, is it applicable in all cases? Third, is it a cure? Practically the treatment is safe under the precautions which are laid down, but Dr. Osler, in some remarks before the Philadelphia County Medical Society, narrates a case in which the patient almost succumbed after the first treatment, the gas being charged with a mixture of bi-sulphide of carbon and sulphuret of hydrogen. We can also conceive of cases in which, on account of limited respiratory power, the rapid administration of the gas, by producing distension of the large bowel, would seriously embarrass the limited respiratory capacity remaining in the patient. It is also conceivable that an undue amount of distension in cases of tubercular ulceration of the bowel might be dangerous, possibly producing rupture and peritonitis; and it seemed to him this is a consideration which should require caution about administering this treatment in typhoid fever. In regard to its applicability in all cases, that has been partially answered in considering the previous question. It has been the experience of Geneva physicians, as reported by M. Wiss, and of De la Roche, of Lyons, that there are cases which cannot tolerate the treatment at all. One patient who had hæmorrhoids suffered from such colic that the treatment had to be abandoned. Wiss also mentions a case in which the treatment had to be abandoned in the course of a month, although superintended by Bergeon himself. He was asked to administer the treatment in a case in which the lungs were so extensively destroyed that it seemed unwise to administer it, though perhaps a small amount of gas might have ameliorated the symptoms; but had it been possible to abate or arrest the disease, the patient could certainly not have lived with such a small amount of lung left. Of course this consideration is one which renders the indiscriminate use of the treatment hazardous. There are cases in which the recovery or arrest of the disease has been so complete that the patients are practically well, and have been able to return to their avocations. However, if we are to estimate this thing by the disappearance of bacilli from the sputum we must say it is not a cure. No case is reported in which bacilli have entirely disappeared. As you knew, M. Cornil has instituted a number of experiments on animals with reference to this question, a solution of which all are looking for with much interest. French physicians are experimenting with a great many other substances.

He is now using the treatment upon two cases; one is bronchitic asthma, but the treatments are too few as yet to make any report. Another case is a lady aged 34, who has been suffering from phthisis for a year and a half,

and who last fall received injections of phenic acid twice daily, without any improvement, who had been taking cabinet treatment for six weeks without improvement, in whom the right lung is extensively consolidated, with a large cavity; in this case the relief for the first week was certainly very surprising. The patient gained in strength and experienced a feeling of well-being, or, as she expressed it, a clearer feeling in her head, a feeling of brightness which she had not experienced in weeks. She certainly coughed less, and expectorated less at a time. Her stools had been clay-colored in spite of everything that could be done; at the end of a week they were of a natural color. The movement of the bowels was perfectly natural, her tongue also cleaned off in a remarkable manner at the end of five days. The treatments were continued twice a day, and the patient had to come into the city, so the improvement was perhaps not quite so great as if she had taken the treatment at home. The second week she did not do quite as well, which was attributed to the quality of the mineral water. At the end of two weeks she was improved in respect to all the symptoms which have been related this evening. The night sweats had ceased; her temperature was lower but not normal—it ranged from 99° to $100\frac{1}{2}^{\circ}$. Her tongue did not remain clean, and her appetite did not improve. She gained strength but there was a complication, namely, tubercular laryngitis. M. Bergeon states decidedly that tubercular laryngitis has been very greatly improved by this treatment. In the case just mentioned the laryngeal symptoms have improved, but whether entirely due to the treatment one cannot say, as she has had various sprays and one topical treatment to the larynx. Her case is somewhat discouraging, owing to the extent of the disease, since it is not entirely confined to the right lung. She has complained of no unpleasant symptoms since the first treatment, when she complained of a slight burning at the anus and a desire to evacuate the rectum. Once or twice she complained of a little colic. She is now taking the treatment at home and feels very much encouraged, but the outlook is not what it should be.

All the precautions have been taken in this case thus far, and it proves that the treatment does not give rapid improvement in all cases, and the fact cited by Wiss, that out of four cases treated in Geneva all died within three months, shows that it does not cure in all cases. However, it is a treatment which is so admirable and furnishes such good results in many cases, that all physicians are justified in trying it. Another thing which recommends it is, that after the patient becomes accustomed to the treatment it can be handed over to a trusty member of the family to administer. Compared with pneumatic differentiation it offers a much better chance for the improvement of the patient, although there are cases where pneumatic differentiation will do what this will not. But thus far this method gives better prospects of benefitting a number of cases than any method which has been placed before the profession.

DR. W. H. WEAVER: A case under treatment at the Chicago Policlinic, which is making favorable progress, is one in which there is no doubt of the extent of the tuberculosis in the left upper lobe. The expectoration

was quite profuse and contained an abundance of bacilli. She has been failing for two years, but very rapidly for two months. She had fever, night sweats, prostration, wasting, loss of appetite, but had not taken any medicine of any sort. She came to the Policlinic dispensary for treatment; the first time the injection was only one pint of gas; her temperature that day was $101\frac{1}{2}$; the next day she returned and she had a quart injection and her temperature was then $102\frac{2}{3}$; the next day, the third injection, her temperature was normal and she had another quart. When she returned for the fourth injection her temperature was normal and she seemed better in every way; said her appetite had returned, the cough was less severe, expectoration diminished greatly, and the night sweats almost entirely relieved. At the fifth injection she had a slight temperature; she said she had had no more chills and fever for the last three days. He has given it in three other cases; one has some pelvic trouble and the physician who is treating her thinks that might be a counter-indication to the remedy, but she seems to be better in her general condition, has increased in flesh, and prefers to continue the treatment. Another case of incipient tuberculosis, where the upper left apex is affected more particularly, seems to be improved considerably. He has been having the treatment one week.

DR. L. L. McARTHUR said that in starting in with this treatment of phthisis he saw the difficulties that were going to arise in the apparatus, and thinks he can make some suggestions that will prove valuable. The apparatus presented to-night is not portable, and if the patients are to be treated at home they would either require a separate apparatus for each patient or else one must run the risk of breaking the apparatus. In the first place he thought of a method of collecting the carbonic acid gas, by taking one of those portable laughing-gas cylinders, to be obtained at any dental depot, to a soda-water fountain and having it charged with carbonic acid gas. There can be stored from one to 500 gallons of gas, equally chemically pure with that recommended. This apparatus would simply require the turning of a stop-cock in the tube or opening to permit the gas to escape at any rate desired. If found desirable to continue the use of sulphuretted water, instead of mixing the two gases together first, it could be done by using a wash bottle and a delivery tube. He believes an equally efficient method is to introduce into this cylinder a solution of sulphide of potassium, which furnishes for every ounce of the sulphide of potassium about a gallon of sulphuretted hydrogen. The carbonic acid formed liberates the HS from the sulphide introduced. The strength according to Bergeon's method is about half of 1 per cent. or a little less. By a little calculation it will be seen that the carbonic acid formed by the combination of the carbonic dioxide and water would set free the hydrogen in combination with the sulphur in the definitely desired quantities, so that it would not be necessary to use the sulphuretted water. In that way the gas could be introduced into the measuring bag and then into the rectum. The cylinder would hold a sufficient amount of gas for many treatments, and as it is easily portable, it could be taken to the houses of patients and not require them to come to the office.

DR. R. TILLEY had had no experience whatever in this method of treatment, but would like to say a word with reference to the apparatus which would make the measurement of the gases used more definite. If a bottle of the necessary size was filled full of carbonic acid gas, and then another bottle with a tube attached full of water, the latter could be attached with the necessary tubes and elevated just the same as a siphon, and the water introduced into the bottle containing the carbonic acid gas, and passed through the sulphuretted hydrogen water with the required rapidity, and thus it would come much more regularly than could be done by means of this spasmodic pressure of the bulb. He would like to call attention to the fact that there are on sale in this city large cylinders containing absolutely pure carbonic acid gas, imported under the auspices of the Prussian government. This gas is condensed to the liquid state at the place where it flows from the earth at a great depth, from the natural channels, and it is only a little dearer than that which is manufactured here.

He would like to say a word about the marked indistinctness that has characterized some few of the reports. The way in which bisulphide of carbon and sulphuretted hydrogen were confused and interchanged was perplexing. Both these agents are exceedingly poisonous, and it is well to bear it in mind. He had some experience with the sulphuretted hydrogen some years ago in the laboratory, and it was his experience that the inhalation of a small quantity was attended almost regularly with a crop of boils. In any case, it would be better to have a more definite idea of the quantities of these poisonous agents than can be obtained by the information given us to-night.

DR. WALTER M. FITCH: For generating the gas we use a common Wolf bottle with three corks, one for a stop-cock for the acid, one for the delivery tube, and one for the safety valve. This last must not be pressed in too tightly. To make the gas we use about a heaping tablespoonful of bicarbonate of sodium, covering that with cold water about two inches deep. If we use hot water we make a suds that will foam up and run into the bag. We use the bicarbonate of sodium and sulphuric acid diluted one part in four. The reason for using the sulphuric acid in preference to any other is, that being absolutely non-volatile, none of it will pass over into the bag of carbonic acid gas. To make the gas, the generating bottle is connected with the bag, which is emptied and tightly rolled in order to remove all the air. The generator should also be emptied of air by turning in some of the acid before it is connected with the gas bag. The bags usually hold about one-half of what they are marked—a three-gallon bag will hold about six quarts, etc. If we should over-distend it the corks would be blown out of the generator. For injecting the gas the stop-cock is turned off and the bag is connected with the bubbling tube, which extends to the bottom of the bottle of mineral water, so that the gas coming from the bag may pass down into the water, and, rising up through it, be medicated by the sulphur vapor which it contains. It is injected by means of a hand bulb. In using the bulb it is important to remember that, since it is intended to be used only with water, the action of the valves is not perfect

with gas, and it is therefore necessary that the bulb be held vertically, so that the weight of the valves may assist in closing them. In using it in this way we secure a perfect action, which draws the gas into the bottom of the bottle and delivers it through the tube. The bisulphide of carbon has been mentioned several times. In order to use this it is necessary that the gas be washed, for fear it may contain impurities, for none of the chemicals we get are perfectly pure, and, as they are most likely to contain vapors of hydrochloric acid, which are easily dissolved in water, the gas is bubbled through pure water to purify it. Between the Wolf bottle and the bulb is inserted an ordinary chemical drying tube, a glass tube three-fourths of an inch in diameter, which is drawn down at one end small enough to have the rubber tube slipped over it. Into the other end is fitted a cork with a glass tube through it; in the drying tube is placed a tampon of cotton, and the requisite amount, usually one drachm, of bisulphide of carbon is placed on the cotton. In passing the gas through this cotton it becomes very strongly impregnated with the vapor and is injected in that manner. A very simple way of measuring the gas, when using a small apparatus of this kind, is with the bulb. The bulb will deliver at each compression just so much gas; in order to measure how much is delivered, we simply take a measured bottle, invert it over the water, with the water filling it, then introduce the rectal tube into the bottle and remove the water from it by displacement, the number of compressions being counted. The bulbs vary in size. Of six now in use, two count fifteen compressions to the pint; three count twenty compressions to the pint, and one counts twenty-five. Thus, with each apparatus the bulb must be measured, and knowing its capacity, the gas can be prescribed in as definite a way as any medicine measured out of a bottle.

THE PRESIDENT said his experience with this method, extending over less than a month, comprises the observation of one case that impressed him strongly. This was a young man suffering from the last stages of quick consumption, who had been in the care of Dr. H. A. Johnson. He was very feeble, much emaciated, had badly swollen feet and albuminous urine. His temperature ranged from 101 to 103 each afternoon, and he had profuse night sweats. In addition to these usual symptoms he suffered to an extraordinary degree from laryngeal tuberculosis. He had been unable for many weeks to lie down with comfort, and according to his own statement, had not slept fifteen minutes in three months. Cough was constant and expectoration profuse. About a month before Doctor Johnson had given him three or four weeks to live. Gaseous enemata, employing the artificial solution advised by Doctor Bruen, was used twice a day. Improvement began on the second day, and by the fourth day was pronounced. The cough was less distressing and the sweats and expectoration had diminished; the patient was able to lie down and sleep for two hours continuously. He was, however, so evidently near dissolution that it was deemed inadvisable to continue a tentative treatment, and stopped it on the fourth day. Two days later he sent an urgent request for the resumption of the treatment, saying that his former symptoms were returning.

However, he declined to use the injections further, and six days after their discontinuance the patient died, nearly two weeks after his physician had expected his demise.

It should be remembered that these injections seem to arrest not the tuberculosis proper, but the sepsis which is secondary thereto, and that there are numerous other septic conditions in which benefit may fairly be expected, such as surgical sepsis, diphtheria, puerperal fever, etc. The apparatus furnished by the stores is unnecessarily expensive and inconvenient for a visiting practice. He uses an improvised apparatus consisting of a gas bag, double perforated cork, and ordinary large wide mouthed bottle—the whole costing \$2.50 instead of \$10. The entire outfit can be readily improvised at a little cost and carried in a small handbag.

His limited experience gives him the impression that the artificial solution of the sulphide of potassium is preferable to either Ypsilanti or Blue Lick water, because the amount of sulphuretted hydrogen in these waters as we obtain them at the drug store appears to be extremely variable, while in the artificial solution it can be maintained at a given percentage, increased or diminished as desired, yet care should be taken to make a weak solution about such as is recommended by Doctor Bruen, since a too-concentrated solution of the poison may produce very unpleasant symptoms. This method can be employed by every practitioner as well as by the most expert specialist. If it will accomplish nothing more than the relief of the distressing cough, expectoration, fever and sweats of advanced consumption, it will at least do what can be effected by no other therapeutic measure with which he is acquainted; hence it is to be hoped that it will be submitted to a general test by the profession, that we may quickly ascertain exactly its merits and demerits.

DR. C. M. FIRCH: The remedies that have been ordered for consumption in the past are about as numerous as the sure-cures that have been offered for cancer and hydrophobia, and have commanded about as much attention from the profession. But this method of Bergeon's comes to us under very different auspices; it comes with a letter of introduction that demands from us respectful attention. J. Henry Bennett indorses Bergeon as a man worthy of credit; and if Bergeon's statements be true they are of the deepest interest to us all. It is in Bergeon's favor also that he not only asks us to believe something, but he gives us a reason for so believing—a plausible explanation of what he wishes us to receive. He assumes that septicæmia, arising either from the absorption of pus, or the morbid product of the bacilli, is the cause of the formidable symptoms of phthisis, and that if we can antagonize this septicæmia, we can undo day by day the deadly work of the bacilli, and shall gain time in which the lesions that have arisen from phthisis may be overcome.

The first case in which he had occasion to test this method of Bergeon was one of extreme anxiety to him. The patient, a young lady 20 years of age, had previously had exceptionally good health, was well nourished, with a muscular development that seemed to defy fatigue. She returned in July last from a visit to Colorado with a cough which was charged to

the dryness of the climate and the inhalation of the alkaline dust, which causes a catharrhal irritation. This seemed a plausible explanation, and as the cough was not urgent, it received but little attention until, in November, she took a cold which resulted in chills for three or four successive days, and seemed to prostrate her greatly. He then examined her chest, and, to his astonishment, found extensive and marked consolidation at the apex of the left lung; there was also irritation throughout the remainder of the lung and some moist rales. Several of our best physicians tendered their aid, but the case failed to improve. The patient lost flesh rapidly, her cough became fearfully oppressive and her temperature never fell to normal, rarely below 100° , and most of the time 101° and rising to 103° . She had daily chills and profuse night sweats, and the case presented all the features of acute phthisis. At the last examination, made by Doctor Belfield and Doctor Ochsner, both thought they detected bacilli in the sputum, although previous examinations had failed to show them.

Late in January his attention was called to an article in the *Medical Record*, giving a notice of Bennett's paper in the *British Medical Journal*, which contained an account of Bergeon's method. After considerable trouble he obtained a copy of the paper which contained this article, and went to Sargent's to have an apparatus made, and there learned that they had just made one for Dr. Crane, who kindly allowed him to appropriate it and ordered another for himself. Knowing nothing at that time of what he might expect in such a case from our different mineral waters, and knowing that Dr. Bergeon recommended bi-sulphide of carbon as the best substitute, he commenced treatment with the bi-sulphide, and the effect was surprising. The treatment was commenced seven weeks ago to-day; during the week previous the temperature had at no time fallen to normal; the lowest point was 100° , and once it rose to $105\frac{1}{2}^{\circ}$, and night sweats and chills were constant. The first time the injection was tried very cautiously, only a moderate amount of gas being used. The effect was not specially apparent; the second day the temperature still rose to 103° . That night the gas was used much more freely, and with results that to us were somewhat alarming. The next morning the temperature fell to 95° , and it did not rise above 100° during the day; the cough was almost suppressed, although it had previously been very distressing. The next day we did not use the gas quite so freely, but the day following the lung was almost entirely occluded; the mucus seemed to become viscid, and the air was almost shut out from the lung. There was so little elimination of the bi-sulphide through the lung that we soon began to have marked symptoms of bi-sulphide poisoning, although in many respects she appeared better; the cough was almost gone, and there were no chills. The treatment was discontinued for about ten days, and then resumed with the Ypsilanti mineral water. From that time there has been a satisfactory improvement, and she is better than she has been at any time since her sickness began; her appetite and strength are improved, and she is evidently beginning to gain flesh; her cough is greatly lessened, and the chills have altogether disappeared. Her

night sweats have been absent for six weeks; although during the last warm weather she perspired a little for three or four nights, there was nothing in the nature of colliquative sweating, and she seems now in a fair way to recover.

The second case in which he tried this remedy seemed about as hopeless as well could be; the patient was confined to her bed, had been suffering from severe hæmorrhage, chills, night sweats, and great prostration. There was marked dullness at the apex of the right lung, and the physician who was treating her recognized softening. The husband, whose family were patients of his, after the physician told him that nothing more could be done, came to him. He told him that he did not know that he could do anything more; the only thing he could suggest would be this new treatment which he had been experimenting with, and which might be of some value. He was anxious to have something tried, and the case was undertaken. At the end of four days this patient's chills, which had existed then about a month, ceased entirely, and have not since recurred. On the ninth or tenth day the sweats disappeared; her cough was relieved from the first, no opiate could have controlled it more completely. The expectoration was also lessened, her appetite has improved, and she is gaining in strength. In all respects he thinks she has gained as much in the time she has been under treatment as he ever saw a patient gain under any treatment in the same time.

Another case was a young man of scrofulous habit, who has a stiff knee from scrofulous disease of the joint. He has been under treatment about three weeks. There was marked consolidation in his case, also, at the apex of the right lung, and every indication of phthisis. He has improved materially; his cough is much lessened and he is gaining in strength. The indigestion and flatulence which had previously troubled him very much, has disappeared under the use of the gas; there has also been a great improvement in his appetite.

A fourth case was a young woman of twenty, who came under treatment some two or three weeks ago.

The case was chronic, was not urgent in character, at the same time he thought there was little doubt of its being a true case of phthisis. She gained rapidly from the first, and at the end of ten days her menses, which had been absent since December, returned, and her cough was so nearly cured that she considered herself well, and without consulting her physician discontinued the treatment.

Another case, that of laboring man, large and muscular, who has been working where there is a great deal of dust, probably from mechanical irritation, had contracted trouble with his lungs. He had repeated hæmorrhages, which caused great loss of strength; there was marked though limited dullness at the apex of the right lung, but the chief feature of the case was the marked loss of strength, altogether too great to be accounted for by the lesion in the lung. There seemed to be some torpidity of the liver, and a little proto-iodide of mercury was given. His strength, either from the gas or stirring up the liver, has very greatly improved.

The other cases he had seen have not been under treatment long enough to justify a report. It seems that we have a remedy that is worthy further trial. Whether it will fulfil the promise of its youth we have yet to see. He had no doubt this remedy will relieve spasmodic asthma, and there are other conditions that it would relieve. In puerperal fever he should try it, using the bi-sulphide of carbon, but using it cautiously. He also thinks it would be of value in malignant diphtheria and typhoid fever.

THE CHICAGO SOCIETY OF OPHTHALMOLOGY AND OTOTOLOGY.

Meeting of February 8th.—THE PRESIDENT, E. L. HOLMES, M. D., in the chair.

PROFESSOR W. F. COLEMAN read a paper on

THE ADJUSTMENT OF GLASSES IN ERRORS OF REFRACTION.

in cases of simple myopic astigmatism of low degree, in which he said he is "inclined to think it would always be best for near vision to substitute a plus cylinder, with its axis at right angles to that of the minus cylinder found for distances."

He dissents from the view held by Doctor Culbertson as to the manner in which a plus cylinder will correct the ametropia in these cases of simple myopic astigmatism. Doctor Culbertson, in the *American Journal of Ophthalmology*, says: "By this minus glass for distance the myopia in proximal vision has been simply transferred from one to the other plane, and the foci of the two planes are not of the same length." Professor Coleman differs from that view, and cited several cases from his practice in which plus cylinders had been used in accordance with the plan recommended, in which the results were reported as having been very satisfactory.

In discussing the paper, PROFESSOR E. J. GARDINER stated that he preferred to give the same glass for reading as for distance. He wished the eye to have the normal amount of accommodation, and did not care to give two kinds of glasses—one for distance: a minus cylinder; and one for reading: a plus cylinder. Professor B. Bettman had always prescribed a minus cylinder for reading. After Professor Coleman had mentioned to him the subject of the substitution of a plus cylinder for a minus one he had tried it in four cases, and in two of them the result had not been satisfactory.

PROFESSOR E. L. HOLMES said he had tried the substitution of a plus cylinder for the near-point, and had found the minus cylinder more satisfactory.

DR. H. GRADLE said he had always found a minus cylinder more satisfactory than a plus one. He had frequently noticed that the axis of the cylinder, determined with homatropine, differed from that determined

when the accommodation had recovered, but that the patient always accepted the former in reading.

PROFESSOR GARDINER said he had frequently noticed the patient, in reading, change the axis of the distance cylinder.

PROFESSOR COLEMAN, in reply, said that, in his experience, patients with low degrees of myopic astigmatism did not care to wear glasses for distance.

PROFESSOR E. L. HOLMES presented for inspection a cataract glass, double convex cylindrical, axes at right angle and equivalent to $+12$, D. spherical, ground by Meyrowitz Brothers, of New York. He stated that such lenses had been long in use by watch-makers and in the construction of certain optical instruments. His attention was called to the subject more than a year ago by a friend—a distinguished surgeon of New York—upon whom had been performed a successful operation for cataract. The usual glasses, if Professor Holmes remembered correctly, gave perfect satisfaction.

After a secondary operation for capsular remains, the patient found difficulty in adjusting spherical glasses. He then experimented with cylindrical lenses with great satisfaction.

There is reason to believe that this patient is one of the first that ever wore such a combination as being superior to spherical lenses. The patient, after visiting some of the European clinics, was led to believe that few, if any, of the teachers knew by practical experience that such cataract glasses were advantageous to some patients.

Experience must determine whether the slightly less spherical and chromatic aberration and the somewhat enlarged field of the cylindrical lens, such as was here presented, can be of special benefit to cataract patients, and those requiring strong, positive lenses.

PROFESSOR HOLMES also presented a small instrument for incising secondary capsular cataract, in cases in which iridectomy had been performed. The instrument is practically a very narrow Graefe's knife, bent on the flat about half an inch from the point—making a right angle with a square shoulder. The metal portion of the handle is round and small, not unlike that of a cataract needle. The handle of the instrument, in operating, is held in position as in making the corneal incision for extraction of cataract. The point is carried through the periphery of the cornea into the anterior chamber, the plane of the knife being in the plane of the perpendicular meridian of the globe. A slight rotation of the handle carries the cutting edge of the instrument through the opaque capsule. Dr. Holmes had used this instrument in three cases with great success. In a fourth case the very tough membrane was simply torn from its attachments and displaced.

The wound in the cornea produced by the instrument is somewhat larger than that made by a stop needle. There is less violence, however, to the tissues, than in cases in which it is necessary to make extensive motions with the handle of a stop-needle or of Knapp's knife-needle to insure rupture of the membranes. An instrument—right or left—is required for each eye.

PROFESSOR J. E. COLEMAN presented a paper in which he gave the results of his experience in the use of

THE GALVANIC CURRENT OF ELECTRICITY IN THE TREATMENT OF CERTAIN FORMS OF CATARACT

and classed the results into groups.

Group 1. "Cases in which there was no improvement." Group 2. "Cases that have been under observation from four to seven years, in which the improvement has been permanent." Group 3. "Cases in which there has been complete removal of short lines nebulae." Group 4. "Recent cases in which there has been complete absorption of opacities." He said: If the cataract is due to the disturbance of nutrition or change in vascular supply, and in a large number of cases preceded by a marked disturbance of the general health, is it not fair to suppose that in those cases cited by Bull and others where there is arrested development, delayed maturing, or spontaneous absorption that the cause for the change may lie in the improvement in nutrition? That the remedy fails in certain percentage of the case, or in fact, all the cases under observation, may not be the fault of the remedy but in the selection of the cases to be treated *In all cases where the disease is progressive*, as indicated by the fat granules and nebula, where electricity is well borne, where the choroid and retina are not greatly degenerated, and where there are no complications of cirrhosis of kidneys or liver, diabetes or organic disease of heart or lungs, *improvement may be expected*. The cases in which improvement is not to be expected, are those in which vision has remained stationary for some time, and where there are structural changes in the retina and choroid.

Meeting of February 12th.—THE PRESIDENT, E. L. HOLMES, M.D., in the chair.

PROFESSOR E. L. HOTZ reported

A CASE OF PARTIAL TRICHIASIS RELIEVED BY STELLWAG'S METHOD OF REVERSING AND REPLANTING THE CILIARY BORDER,

in which he said the feasibility of skin-grafting suggested to Professor Stellwag a new way of operating for trichiasis, which he announced in the *Allgemeine Wiener Medicinische Zeitschrift* in 1883. In the operation the border of the lid is split, making "an anterior and a posterior leaf, and a transverse incision parallel to the lid border and four to five millimeters from it, is made from canthus to canthus, but at each canthus the direction of this incision is so changed that there it joins the ends of the first cut by which the lid border has been split. In this way a long and narrow flap is obtained which contains all the eyelashes, this flap is completely dissected off; but instead of being thrown away, as in scalping, it is, after all bleeding of the wound has ceased, put back in its place again but with its edges reversed so that the originally upper edge is now the lower edge and *vice versa*. By this reversion of the flap the direction of the eyelashes is not only thoroughly changed so as to turn them away from the eyeball, but they are also removed a little distance from the edge of

the lid by the interposition of a narrow strip of smooth skin, which serves as a sort of a substitute for the obliterated intermarginal border, and effectually prevents the eyelashes from ever again coming in contact with the cornea.

The operation had not always been successful in the hands of Professor Stellwag. If unsuccessful the hair bulbs may be destroyed and the eyelashes be lost, or the transplantation may be followed by the death of the transplanted part; in which case the operation would practically be the old operation of "scalping."

CLINICAL REPORTS.

APHASIA.

A CLINICAL LECTURE BY PROFESSOR J. A. ROBISON, DELIVERED AT COOK COUNTY HOSPITAL.

[Reported by J. L. Gray, M. D.]

The cases to which I wish to call your attention are in some respects unique. The first is that of a man aged 25, a clerk by occupation, who was admitted to the hospital March 11th, 1887. At the time of admission he was unconscious. There was paralysis of the right arm, the right lower extremity and *right-sided* facial paralysis. The pupils did not respond to light. In the course of 48 hours his consciousness returned, and while he could understand all questions that were asked, he was unable to speak, and of course unable to write, on account of the paralysis of the right arm. In a few days, however, he was able to write, using his left hand. All symptoms of paralysis in the lower extremity disappeared in 48 hours after admission. The facial paralysis disappeared in five days, but the paralysis of the right arm continues to the present time.

Three days after admission he was able to say "yes" and "no." His power of speech has gradually improved until at the present time he can speak with sufficient distinctness to make himself understood, after several attempts. For example, when he says "very good" the consonant "v" is "b," and "good" is "gut," sounding like "bery gut." When he says "thin" it is "hin." There has been at no time since his return to consciousness, any amnesic aphasia; it has been

purely ataxic, this inability to speak certain words, although comprehending them perfectly. This patient previously had excellent health, although he has been a hard drinker, and his present disorders were probably caused by a protracted spree, but he has no recollection of how it commenced. He was found on the street, taken to the station and then brought to the hospital. In my own mind I have localized the lesion in the left frontal convolution. Although the patient is a young man, in all probability he had a small cerebral hemorrhage and at the same time areas of active congestion, giving rise to temporary paralysis.

The treatment has been complete rest in bed, good nourishment and no medicine whatever until yesterday, when he commenced taking 8 grains of potassium iodide and 15 minims of ergot three times daily.

The next patient is H. W., aged 25, a commercial traveler, and a very fine penman. Eleven months ago he had a chancre which was followed by the regular specific symptoms of sore throat, fever, eruption, etc., and he was placed on the mercurial treatment for syphilis.

March 1st, while attending to his business as a commercial traveler, he had "a stroke of paralysis" in which there was paralysis of the right side of the face, right arm and complete loss of power of speech. This was at first attended with unconsciousness, which, however, speedily passed away, and in the course of ten days the paralysis of the right arm also disappeared. At present there is slight paresis of the right facial muscles. His memory and mental faculties are unimpaired with the exception that he can not read as intelligently as before. When reading there are certain words which he does not seem to comprehend, and the type seems indistinct and blurred.

After the symptoms of paralysis of the right arm had disappeared he attempted to write, and although he was a very fine penman before the attack, it is with difficulty he can write his name, now. When he is requested to write any other words except his name he is unable to do so. He can write anything on the black-board, slowly, but cannot use a pencil.

The only words which he is able to articulate are "yes" and "no." In trying to speak he is very earnest, but in the endeavor to make himself understood, repeats frequently "I say," the sound being "I shay." He comprehends very distinctly everything that is said to him. The vowel A he can not articulate without joining it with a consonant. O and I he can articulate. The other vowels he can not. S, N and Sh are the only consonants he can articulate.

His treatment has been inunctions of the oleate of mercury until symptoms of ptyalism were produced, and internally the iodide of potassium. He seems to be in perfect health with the exception that he is unable to talk. He now has as much power in the right hand as he ever had. I shall try the effect of the same principles of education with this case as are employed with children, thus endeavoring to again place him where he will be able to write and talk.

I wish now to call attention to the case of a man about 27 years of age, who was brought into the hospital unconscious. There was spastic paralysis of the right arm and right lower extremity. There were also greatly exaggerated tendon reflexes, especially of the right side. His consciousness gradually returned in a few hours. When asked his name he was unable to give it, but wrote it on a piece of paper. We were unable to get any history whatever. In a few days he commenced to speak, and with the exception of dropping out a few words, would articulate a complete sentence rather dis-

tinctly. The trouble with his right arm and right lower extremity gradually disappeared, and in a week he could give a complete history of his life, and among other things, a clear history of his having had syphilis was obtained. In ten days from the time of admission he left the hospital apparently cured.

In conclusion, gentlemen, I wish to remind you that you will not often see, either in hospital or private practice, three cases of ataxic aphasia all at about the same time, and all due to cerebral hemorrhage, syphilis being an important factor in two of the cases.

CANCER OF THE TESTICLE AND EFFUSION IN THE LEFT PLEURAL CAVITY.

BY PROFESSOR J. A. ROBINSON.

[A Clinical Lecture delivered in Cook County Hospital, May 24th, 1887.]

This patient, a male, æt. 24, Frenchman, was admitted to the hospital four weeks ago on account of a scrotal tumor. At that time he was advised to have it removed, but refused, and in dread of an operation left the hospital. Day before yesterday he was again admitted on account of symptoms of disease elsewhere. You will notice the scrotum is so much enlarged as almost to hide from view the penis. You will also observe that the tumor is hard, the skin is of a purplish color and large veins course through the skin. This tumor commenced, according to the statement of the patient, eleven months ago with a swollen left testicle. It is undoubtedly of the testicle,

Observing the patient closely we see he has a cachectic appearance, is emaciated, and has great dyspnœa. On

inspecting the chest we see that there is loss of motion of the left side, bulging out and effacement of the intercostal depressions, displacement of the heart to the right edge of of the sternum, and all the other signs to indicate a large effusion in the pleural cavity. The patient gives no history of pain in this side, but says he has suffered from increasing difficulty of breathing for the last three weeks. Let us inquire what will probably prove to be the character of this effusion? I believe we have good reason to anticipate that upon withdrawing some fluid we will find it to be serum, containing blood. Having now withdrawn some fluid by means of this hypodermic syringe, you see it is blood-red. This is, I think, positive proof that the effusion is due to cancer of the pleura. Cancer of the pleura is almost always secondary, and this is undoubtedly consequent upon the cancer existing in the testicle.

The patient is suffering extremely, and will be aspirated this afternoon.

In all cases where the effusion is so extensive as this, aspiration must be resorted to at once. Of course, aspiration is done in this case only for the purpose of affording temporary relief. We must pause before giving our prognosis, as it would not be considerate to discuss it in the presence of the patient, for we must remember how futile all efforts to combat cancer are. Medical science has made wonderful advancements in the treatment of disease during the last half century, but two implacable foes still face us—cancer and phthisis.

EXTRACTS.

HONORS TO A WORTHY PRACTITIONER.

PROFESSOR J. A. ROBISON writes: "I have just received the *Echo de Perse* from Teheran, Persia. It is published in French; and, among other things, contains the following:

"We learn with great pleasure that by imperial firman His Majesty, the Shahinshah, has authorized the American missionaries to establish at Teheran a hospital, where, without regard to religion or nationality, all seeking relief shall be received for treatment.

"Dr. W. W. Torrence, physician to the mission, has been appointed director of this establishment. His Imperial Majesty desiring at the same time to reward the zeal and devotion of Dr. Torrence, who for many years has been gratuitously relieving so much suffering and distress, has named him Grand Officer of the Order of the Lion and Sun of Persia.'

"Dr. Torrence's many friends will be gratified to hear of this high mark of distinction having been accorded him.

"Dr. Torrence was educated in Chicago, at Rush Medical College, graduating in 1880, and going to Persia in 1881. He has been laboring many years to establish a hospital there, but has had to contend against difficulties in raising funds."

ELECTRICITY IN THE TREATMENT OF EPILEPSY.

Dr. A. D. Rockwell, of New York, recently read a very interesting paper before the Academy of Medicine of that city

on this interesting subject. The following were the conclusions at which he arrived :

1. Electricity possesses a certain value in the treatment of epilepsy. It is not known, nor is it alleged, that used alone it can cure epilepsy. Used in connection with the bromides, however, its value is unmistakable, and under its use a certain proportion of patients will recover that otherwise would fail to do so.

2. It is in the nocturnal variety of epilepsy more especially that the good effects of electricity are seen, although day attacks have been successfully controlled.

3. The methods of electrical treatment that have proved most efficacious in my hands are central galvanization and general faradization.

4. When electricity fails to cure, or aid in the cure, it is often efficacious, by the method of general faradization, in affording grateful relief from nervous symptoms of an indefinable subjective character; in other words, from that general instability of the nervous system recognized under the term neurasthenia.

5. The systematic use of electricity renders the system more tolerant of the bromides, and will diminish bromic acue.

6. It is important that electrical treatment should be administered with care and judgment; especially should all interruptions of the current be avoided in central galvanization, as the resultant shock is liable to hasten rather than prevent an attack.

7. Two years must elapse without an attack before any case of epilepsy can be considered as one of positive cure.—*College and Clinical Record.*

BOOK REVIEWS.

OUTLINES OF THE PATHOLOGY AND TREATMENT OF SYPHILIS AND ALLIED VENEREAL DISEASES. By HERMANN VON ZEISSLL, M.D., *Late Professor at the Imperial-Royal University of Vienna. Second Edition, revised by MAXIMILIAN VON ZEISSLL, M.D., PRIVAT-DOCENT, etc. Authorized edition translated with notes by H. RAPHAEL, M.D., Attending Physician for Diseases of the Genito-Urinary Organs, etc. New York: D. APPLETON & Co. 1886. Pp. 402.*

Zeissll's treatise has been so long known and so deservedly well received in its original dress, that an English translation is welcome at once as a valuable addition to the literature of syphilis and allied venereal diseases, in our own tongue. In the present case it may be said that Dr. Raphael has done his work of translation with care and intelligence, and the result is a treatise in the vernacular, and not a clumsy bundling of the author's ideas from one language to another.

It is to be regretted that the revision of the whole, since the appearance of the second edition in 1884, had not rather more fully brought the subject in all its branches up to the date of the translation, though Dr. Raphael's notes supplement this work to a certain extent. For example, in the matter of the gonococcus, which many hold to be the etiological factor in the production of all forms of true gonorrhœa, the present work devotes but a paragraph or two, evidently added by the translator, to the discoveries of Neisser, and the briefest allusion to Bumm's work. In the chapters devoted to consideration of syphilis, the translator has also added a couple of paragraphs merely, devoted to the consideration of the bacilli which Lustgarten and Doutrelepon have regarded as the essential elements of the syphilitic virus. It is here stated that it is "probable that these bacilli actually constitute the syphilitic poison," but one would scarcely conclude from this brief notice that the whole pathology of syphilis is undergoing at the hands of some authors a revision on the basis of what has been written in this connection.

It certainly is well, however, for the practical value of the translation that it has been done by an American. Almost every page bears some fruit of the practical efforts of the American school in the direction of affording the promptest relief to patients actually suffering from the disorders discussed. The conspicuous absence of hints of this character in many German treatises has made the latter unpopular with American readers. For example, there is scarcely a clear distinction made by the German authors between acute and chronic prostatitis, a defect which the

translator endeavors to cure by a hint; and, in the treatment of the first-named complication of a blenorrhagia, the application of leeches to the perineum is actually relegated to one of the translator's notes. There are few American practitioners who would, in an acute prostatitis threatening abscess, tie a Nelaton catheter in the urethra, "in order to keep open the canal for the passage of urine," yet this is the first injunction of the German authors for the relief of the most distressing complication of this disorder. However, we can make allowance for a few such minor faults in estimating at its real value the conservative method in which the authors view many methods of treatment and surgical procedures in the disorders of which they treat, that it is easy to see in the course of a few years will be regarded as relics of the brutal period of genito-urinary surgery.

The book is recommended to the American profession as a trustworthy guide in the management of the diseases in the field in which it has so long and so well occupied a high rank.

DRUG ERUPTIONS: A CLINICAL STUDY OF THE EFFECT OF DRUGS UPON THE SKIN. By PRINCE A. MORROW, A.M., M.D., *Clinical Professor of Venereal Diseases, formerly Clinical Lecturer on Dermatology in the University of the City of New York, etc.* New York: WM. WOOD & Co. 1887. Pp. 199.

This is a little work of more value than many would suppose from its modest title. It gives in a convenient form the pathological results, so far as regards the skin, of both the ingestion and external application of medicamentous substances. The number of the latter is not only greater than most persons suppose who have given no attention to the subject, but the effects produced are so multiform and numerous that actually a large field in dermatology is covered by the subject. It is one naturally that chiefly concerns the dermatologist; but there is no man who aims to be an expert consultant in general medicine, or a careful diagnostician in any department of it, who can afford to ignore the important details here presented. As we look over the list of drugs capable of producing rashes, from arsenic and the potassium iodide that have been swallowed, to arnica and tar that have been externally applied, we can only look back with wonder as we speculate on the kind of diagnosis that our fathers in medicine would have made when confronted with the rashes that owe to these causes their sole existence.

Perhaps we might, with Tilden, take issue with our author in explaining, as he does, so many of these phenomena by supposing that they have a tropho-neurotic origin. We might claim for some of them that they had an intimate relation with vascular changes, and that some might be actually induced by the presence of toxic or irritative substances in the circulation. But we do not wish to be critical when such excellent results are spread before us.

We prefer, rather, to commend the work to the practitioner, not on the basis of so many others, as a book to be picked up and read during a

spare half-hour. Not at all. It is a volume to be placed on the shelves for consultation; and in the face of an exceptional, singular or curious exanthem, it should be the first consulted.

ELEMENTARY MICROSCOPICAL TECHNOLOGY. A MANUAL FOR STUDENTS OF MICROSCOPY. IN THREE PARTS. PART I, *By* FRANK L. JAMES, PH. D., M.D., *Illustrated*, pp. 107. ST. LOUIS MEDICAL AND SURGICAL JOURNAL COMPANY, 1887.

The author has endeavored to make his description of the steps of preparing tissue and mounting a slide so complete that a beginner using this book, will require no other information. It attempts nothing more.

It contains many good suggestions but deals largely with biological microscopical technology, and is far less useful for medical students than other books previously published. The literary quality of the book can scarcely be commended.

MEDICAL ELECTRICITY: A PRACTICAL TREATISE ON THE APPLICATION OF ELECTRICITY TO MEDICINE AND SURGERY. *By* ROBERTS BARTHOLOW, A.M., M.D., LL.D. *Third Edition, Enlarged and Improved. Illustrated*, pp. xx and 304. Philadelphia: LEA BROTHERS & COMPANY. Chicago: A. C. McCLURG & COMPANY, 1887.

Those who are already familiar with this book need only to know that the additions embodied in this edition are highly practical and occur chiefly in the therapeutical sections, bringing the work fully up to the present, to the standard of our knowledge of the subject. Quite a full account is given of appliances for electrical illumination, and galvano-cautery, and galvano-faradization and electric baths receive appropriate consideration. To those who are not already familiar with the book in its former editions, it may be said, that for medicinal purposes it is amply full, and is characterized throughout by practical good sense and directness.

TRANSACTIONS OF THE ASSOCIATION OF AMERICAN PHYSICIANS. *Volume I.* Pp 261, 1886.

Many members of the American Medical Association regret very much indeed that the gentlemen who compose this new association have seen fit to organize what has been considered a society in opposition to the parent association. Many of the papers are of more than usual merit. In addition to the papers read at the meeting, the volume contains a copy of the Constitution and By-Laws, and lists of the officers and members of the association. The meetings are to occur annually, and to be held during the month of June in the city of Washington. The active membership is limited to one hundred, and just why it should be called THE Association of American Physicians is not apparent to everyone.

A PRACTICAL TREATISE ON OBSTETRICS. *Vol. I. (4 vols.), Anatomy of the Internal and External Genitals, Physiological Phenomena (Menstruation and Fecundation.)* By A. CHARPENTIER, M.D., Paris. Illustrated with lithographic plates and wood engravings. This is also Vol. I. of the "Cyclopædia of Obstetrics and Gynecology" (12 vols.), issued monthly during 1887. New York: WILLIAM WOOD & COMPANY. Chicago: W. T. KEENER.

The publishers are to be congratulated upon their abandonment of a policy which compelled the purchase of books which in many cases were not wanted, in order to obtain others which were desired. Every volume of this series promises to be desirable, and the enterprise which secures the publication of the "Cyclopædia" merits commendation.

Anything like a critical review by topics, of even only a part of Charpentier's work on obstetrics, which this volume is, is of course not to be attempted in the limits of a mere book notice, and hence general statements must suffice.

This translation is made under the supervision of, and edited by, Egbert H. Grandin, M.D., and both duties have been well performed. The section in embryology in the original treatise has been replaced by a condensation of the contribution on that subject by Professor Milnes Marshall to Barnes' treatise on obstetrics.

In the many points in which either general opinion has changed since the original treatise was written (1882), or in which Charpentier's views conflict with those generally held in America, the editor has added, in brackets, the necessary statements. This has been done in a very satisfactory manner, as, for instance, the correction on pages 453 and 454, of the author's gross misrepresentation of Credé's method of delivering the placenta.

The colored lithographic plates are quite satisfactory, but the very numerous wood-cuts are poor in every way, and particularly in the explanatory letters about the margin of the cut, which are in a great many cases illegible. The low price of the books in the series is not a sufficient excuse for this fault, which is a grave one, and which ought to be corrected in subsequent editions. The printing and binding of this volume are very fair, and the size is very convenient.

E. W.

ON FEVERS: THEIR HISTORY, ETIOLOGY, DIAGNOSIS, PROGNOSIS, AND TREATMENT. By ALEXANDER COLLIE, M.D. (Aberd.), R. C. P. (London), Medical Superintendent of the Eastern Hospitals. Pp. viii. and 288, 8 vo., with colored plates. Philadelphia: P. BLAKISTON, SON & CO. Chicago: W. T. KEENER, 1887.

In his modest preface of eight lines, the author says, "The observations contained in this volume—Relapsing Fever, Rotheln and Influenza excepted—are for the most part founded upon over 21,000 cases which the author has personally treated from commencement to termination.

This little book can hardly be praised too highly. Chapter II, "On

the treatment generally of acute infectious disease" is admirable. In common with all observers of very large experience, an experience involving thousands of cases, the author has learned that the use of drugs plays a very subordinate rôle in the treatment of acute infectious diseases.

The limits of a brief book-notice do not allow extended comment, but it is due this little volume to say that its perusal will well repay any medical man, for its quality and value are exceptionally high. E. W.

A PRACTICAL TREATISE ON OBSTETRICS. *Vol. II, The Pathology of Pregnancy, and Vol. III, The Pathology of Labor, By A. CHARPENTIER, M.D., Paris, Illustrated with lithographic and wood engravings. These are Vols. II and III of "The Cyclopædia of Obstetrics and Gynecology" —1887. New York: WILLIAM WOOD & Co., Chicago: W. T. KEENER.*

The first volume of this treatise has already been reviewed in this journal, and these volumes call for no special notice. The claim of the translator, that it is "the most complete treatise on obstetrics in any language," is fully sustained. The translator's notes continue to be a desirable addition to the work. E. W.

A TREATISE ON DISEASES OF THE SKIN, WITH SPECIAL REFERENCE TO THEIR DIAGNOSIS AND TREATMENT. *By T. M'CALL ANDERSON, M.D., with colored plates and other illustrations. Pp. xviii and 662, Philadelphia: P. BLAKISTON, SON & Co., Chicago: W. T. KEENER, 1887.*

This volume is a welcome addition to the not over large list of treatises on its subject. For more than a quarter of a century the author has had exceptional opportunities for the study of skin diseases, and he has an added advantage, as an author, in the fact that he is also a general practitioner and holds the chair of clinical medicine in the university of Glasgow.

Many of the articles upon diseases not endemic in England, or upon others, as ulcers, upon which the author is not as well qualified to write, are written by able men whose residence abroad, or whose special experience in practice specially fits them for the work. The pathology and treatments given are thoroughly in accord with the most recent and accepted opinions. The arrangement of topics, the indices, the printing, paper and binding are all excellent. The book may fairly be said to be the most satisfactory English treatise upon the subject. E. W.

A TEXT-BOOK OF PATHOLOGICAL ANATOMY AND PATHOGENESIS. *By ERNEST ZIEGLER. Translated and edited for English students by DONALD MACALISTER, Part II., Special Pathology, Sections ix-xii. London and New York: McMILLAN & Co., Chicago: W. T. KEENER.*

The volume in hand is devoted to the consideration of the anatomico-pathological changes together with the causes producing them in the urinary organs, the respiratory organs, and in the central and peripheral nervous systems. It furnishes the portion, Special Pathology, which, with Part I on General Pathology, completes the work. Together they cover

the whole field of Pathology. The generally accepted views at the present time are briefly and clearly stated. Besides the text there are numerous explanatory and supplementary notes setting forth the differing opinions upon the subjects treated of. The value of the work as a hand-book, as well as a text-book, is also greatly enhanced by extensive bibliographical references. The arrangement of the matter in paragraphs with the subjects in heavy faced type adds very much to the convenience in using the book. The publishers' imprint is sufficient guarantee for its typographical excellence.

PAMPHLETS RECEIVED.

A Successful Case of Partial Excision of the Larynx on account of Intra-Laryngeal Epithelioma. By Lennox Browne, F. R. C. S. [Ed.]

A Discussion of the Climatic Treatment of Phthisis Pulmonalis. By Joseph P. Ross, A. M., M. D.

Novel Method of Treating Diseases of the Middle Ear. By Seth H. Bishop., M. D.

Surgical Lesions of the Brain and its Envelopes. By Nicholas Senn M. D.

Hydrophobia—Fatal Termination. By H. P. Stebbings, M. D.

A Contribution to the Management of General Atrophy (Sclerosis?) of the Conducting Apparatus of the Ear. By S. O. Richey, M. D.

Persistent Pain after Abdominal Section. By James B. Hunter, M. D.

The Scientific Rationale of Electro-therapy. By C. H. Hughes, M. D.

Post-Graduate Instruction in Gynecology. By Henry C. Coe, M. D., M. R. C. S.

Ueber das Vorkommen der Albuminuria bei Diabetes Mellitus. Von Dr. Arnold Pollatschek.

A Novel System of Operating for the Correction of the Deflected Septum. By William C. Jarvis, M. D.

Forensic Surgery. William Zuppan versus William Dickinson, M. D.

Baked Beans; A Serio-Humorous Medical Paper. By Ephraim Cutler, A. M., M. D.

Will Contests. By Walter E. Rex, Esq.

Live-Birth in Its Medico-Legal Relations. By John J. Reese, M. D.

BOOKS RECEIVED.

Report of the Committee on Disinfectants of the American Public Health Association. 1886.

Proceedings and Addresses at a Sanitary Convention held at Coldwater, Michigan, Sept. 9th and 10th, 1886.

A Compend of Electricity and Its Medical and Surgical Uses. By Charles F. Mason, M.D.

A Treatise on Diseases of the Skin. By T. McCall Anderson, M.D.

A Manual of Weights and Measures, Etc. By Oscar Oldberg, Pharm. D.

The Pathology of Pregnancy. Vol. II. of a *Practical Treatise on Obstetrics*, By A. Charpentier, M.D.; and *The Pathology of Labor*, Vol. III. of same Treatise. Both volumes number in the *Cyclopadia of Obstetrics and Gynecology*.

The Nursing and Care of the Nervous and Insane. By Charles K. Mills, M.D.

Drug Eruptions, a Clinical Study, Etc. By Prince A. Morrow, A.M., M.D.

Reference Handbook of the Medical Sciences. Vol. IV.

A Text-book of Pathological Anatomy and Pathogenesis. By Prof. Ernst Ziegler.

A Companion to the United States Pharmacopœia, Second Revised Edition. By Oscar Oldberg, Pharm. D., and Otto A. Wall, M.D., Ph. G.

Earth as a Topical Application in Surgery. By Addinell Hewson, M.D.

Elements of Physiological Psychology. By Prof. George T. Ladd (Yale).

The Practitioner's Handbook of Treatment. By J. Milner Fothergill, M.D.

Medical Electricity, Etc.; Third Edition, etc. By Robert Bartholow, A.M., M.D., LL.D.

A Practical Treatise on Impotence, Sterility, and Allied Disorders of the Male Sexual Organs. By Samuel W. Gross, A.M., M.D., LL.D.

Saint Bartholomew's Hospital Reports. Vol. XXII.

Report of the Commissioners of Education for the Year 1884-5.



